

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

TRUSTEES

OF THE

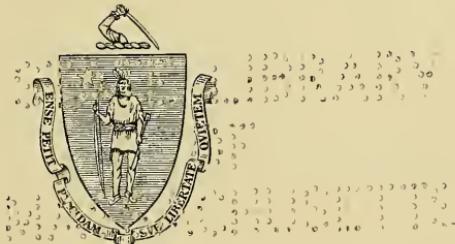
WORCESTER STATE HOSPITAL

FOR THE

YEAR ENDING NOVEMBER 30,

1938

DEPARTMENT OF MENTAL HEALTH



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EAST GARDNER, MASS.

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WORCESTER STATE HOSPITAL

(Post Office Address: Worcester, Mass.)

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TRUSTEES' REPORT

To His Excellency the Governor and the Honorable Council:

The Trustees of the Worcester State Hospital respectfully submit the 106th annual report of the hospital together with the report of the Superintendent, Dr. William A. Bryan and report of the Treasurer, Miss Margaret T. Crimmins and other statistical information.

The board again wishes to record its approval of the policies of the hospital as they relate directly to patients. The emphasis upon treatment, research, teaching and prevention will, we hope, eventually bring substantial return on the money invested in the form of a reduced hospital population. The cure and discharge of patients, as a criterion of hospital efficiency, is so obvious as to need no comment and in measures that will increase the recovery rate will prove economical in the end. The board has viewed with alarm the constantly rising per capita cost of maintenance for our patient population over a period of years. As a result of a study of this situation we have arrived at the conclusion that the only way to reduce costs and at the same time maintain proper standards of care and treatment, is through more efficient fiscal administration of both hospital and commonwealth. Better control over finances and inventories within the institution, more careful budgeting and increased efficiency in purchasing supplies and the application of sound principles of business administration will do much to reduce operating costs without affecting the standard of care.

Thousands of dollars worth of paint, lumber, plumbing supplies, repair parts, etc., are purchased annually by the institution. Under the present system of accounting these supplies are entered on the stock book and immediately issued as expense items. No further records are kept as to their distribution and use. Such methods are an invitation to waste and extravagance. A better check on distributed supplies and materials would undoubtedly result in substantial savings.

The delays attendant on the purchase and delivery of supplies to the institution make it difficult to keep inventories down to a level that is consistent with sound business procedure. There is no necessity for carrying large stocks of goods when markets are accessible and transportation so readily obtained. Yet the time required to put through the central purchasing bureau an order for goods and secure delivery is so great that serious inconvenience to patients frequently results. The purchase of yearly supplies of dried fruit, canned goods, etc., with the resulting danger of spoilage and shrinkage is not, in the opinion of the board, a sound business practice.

The board recommends to your Excellency that a careful study of these business procedures be made in the interest of a more economical administration of the institution. Over centralization of routine does not lead to a decrease in per capita cost. On the contrary it adds to the overhead of administration. Certain measures which the board hopes will lead to economy have already been put into effect and others will be inaugu-

rated from time to time. A system of financial control for monthly expenditures is functioning smoothly and efficiently. A daily balance sheet of bills paid and bills payable compared with the monthly budget allowance enable the Superintendent to keep well within the budget allowance for the month.

The policy of keeping down inventories to a value of one-half of the total expenditures for the month has already been established. Rapid turn-over of inventory should prove to be as profitable to the state as it is to private industry.

Study of the distribution of materials and supplies used for building maintenance is in progress. A stock room is now functioning. It is a part of the store system under the control of the steward and with an assistant store keeper in direct charge. Materials for each job are issued to workmen on requisition. A cost system for both labor and materials will eventually be worked out.

The board hopes that the active interest and cooperation of the entire personnel can be enlisted to conserve the finances of the Commonwealth. Each member of the organization must appreciate his or her responsibility in financial matters. The loyalty of every officer and employee during the past year has been most gratifying. Each has made a contribution and it is a pleasure to make acknowledgment of this fact.

Respectfully submitted

WILLIAM J. DELAHANTY, *Chairman*
ANNA C. TATMAN, *Secretary*
JOSEPHINE R. DRESSER
JOHN L. BIANCHI

ROBERT R. PORTLE
HARRY KENNEY
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SUPERINTENDENT'S REPORT

To the Trustees of the Worcester State Hospital:

In accordance with custom, a detailed account of the activities of the hospital are embodied in the reports of the several department heads. A careful perusal of these will give a summary of the work carried on during the year.

The emphasis of all hospital activity has been on therapy. One of the criteria of psychiatric efficiency is the number of patients discharged. Many have received the newer forms of treatment and the results are shown in the report of the Clinical Director. It is my belief that the mental hospital must be organized around therapy rather than mere custody if it is to justify its existence.

The shortage of properly trained personnel in psychiatry creates an inescapable responsibility for the mental hospital in an educational program. The policy of bringing students into the institution for actual contact with psychotic patients is one of the methods by which this responsibility may be carried out. The teaching program has continued to be an important activity and we are constantly endeavoring to revise and improve our pedagogical methods and techniques. The students admitted for training at Worcester represent many disciplines and allied professions.

The report of the Director of Nursing shows the attempts we have made to formalize psychiatric nursing techniques into concrete ward procedures. This is based on the theory that every patient must be surrounded by an atmosphere of reality which presses on him at all times and on all sides. It is created by an active and systematic ward nursing routine.

An interesting phase of the report is a study of illness among ward personnel. Sick leave has been granted this year. This study is an analysis of the results of the first few months.

In our social structure a complete change of relationship between worker and employer is going on. Traditional methods of dealing with workers have been discredited in favor of more democratic methods. Many hospitals have accepted the general situation. The eight hour day, sick leave, vacations with pay, and general recognition of the rights of individuals are entirely of this. Experiments along the line of greater democracy in organization are in line with the modern trend of industry. Real cooperation between employees and administration rather than mere order-giving and order-taking is rapidly coming into industrial administration and will inevitably come into the mental hospital. We should therefore be in the forefront in recognizing this trend.

Devices to promote this improved relationship have been tried. Disciplinary problems have been considered by group conferences. House committees have been organized for the nurses and employees homes. Ward personnel has been rated and their grades discussed with them. While these methods are still in crude form and on an experimental basis, they are attempts to meet the changing conditions of society.

Reports of other years have discussed the question of numbers of personnel. Most of these comments were based upon impressions. This year a study of actual nursing hours per patient has been started and is still being carried on by the Assistant Director of Nursing. While the survey is not complete, it already reveals the fact that the nursing time per patient for certain groups is inadequate for even a high standard of custodial care. The full report will be published when complete.

We have continued to emphasize the responsibility of the nurse in the Occupational Therapy program. Through ward classes and ward work, she makes the first approach to the occupational interest of the patient. Occupational therapy is an important phase of psychiatric nursing. The policy of industrial placement as a responsibility of the occupational therapist has been continued. The placement is carried out through evaluation clinics presided over by the physician. They seek to place the patient in accordance with his psychological needs.

Family care of patients has been continued and extended through the addition of a social worker. As a tool for social case work, family care continues to grow in importance. It offers a medium for reducing overcrowding and eliminates the need of additional construction for housing patients.

The medical and surgical service has been active during the year. This service is a valuable tool for the psychiatrist. Through it he can study the psycho-somatic relationships of the patient. From the standpoint of better care during acute illness, a separate medical service has proven to be of great value. The patient receives better nursing and medical care when the personnel of the ward is primarily interested in physical disease.

The quantity of work carried out by the adjunct services, X-Ray, Dental, Physical Therapy, Laboratory, etc., indicate the medical activity during the year.

A complete reorganization of the pharmacy was affected during the year. The theory upon which the reorganization was based is that the pharmacy is a part of the stores system and as such it should be a responsibility of the steward so far as stock-keeping and recording are concerned. The stock of drugs and supplies has been reduced and a perpetual inventory installed which will give better control. The new system has already improved the service and reduced the cost of operation.

Research continues to be a major activity. The lines along which this research has developed is indicated by the report of the Research Service. Research is the hope for the psychiatry of the future. Money invested in these investigations can only bring a return in the years to come. To handle the problem of mental disease without an organized and systematic approach to its problems has already proven to be a costly policy in many states and will be more expensive in the years to come.

The policy of community activity has been continued through the Worcester Child Guidance Clinic and the more recently organized Mental Health Clinic. The latter has been made possible through an affiliation with the Welfare Department of the City of Worcester. The Department furnishes office space and clerical assistance and the hospital furnishes the director. This is the type of united effort which, I believe, will give the greatest amount of service at the least possible cost. A development of the same type of united effort has been organized in conjunction with the Webster School System. The Webster Child Guidance Clinic is a joint product of the Worcester Child Guidance Clinic and the City Schools of Webster.

The reports of the psychology, library, chaplain and radio departments are indicative of the important place they occupy in our hospital. The volume of work carried on by each is an index to the number of patients who are reached by direct and indirect psychotherapy.

The business affairs of the hospital have been carried on during the year with greatest attention to the details of administration than at any previous time. The problems of governmental economy are intimately related to the efficient administration of the hospital. Two main goals present themselves. One is the improvement of efficiency in service to the patient within the institution. The other is economy of operation. These two objectives may be but are not necessarily in opposition. The harmony between them is greatest when economy is not arbitrary but is itself governed by efficiency. The problem is how to raise the standard of care and treatment of patients without increasing the cost of operation. This can only be done through the application of these sound, fundamental principles of business control that have proven to be so profitable to private enterprise. It is through these means that we can save funds to be applied to the furtherance of our professional program.

PSYCHIATRIC SERVICE
Morris Vorhis, M.D., Clinical Director
Movement of Population

During the year there were 542 new patients received, two more than the previous year but there were nineteen fewer patients readmitted. The total number received was 761. The total number discharged was 443, an increase of 41 patients over 1937; patients discharged as recovered, 124; patients discharged as improved, 181; patients out of the hospital on visit or otherwise absent, 532. Eight patients were discharged from family care and nineteen patients were placed on visit.

Diagnosis of patients discharged among the more common reaction types:

Syphilitic Meningo-encephalitis	7	Psychoneuroses	23
Alcoholic Psychoses	44	Manic Depressive Psychoses	46
Cerebral Arteriosclerosis	38	Dementia Praecox	122
Senile Psychoses	11	Without Psychoses	69
Involutional Psychoses	14		

It is of considerable interest to those studying Shock Therapy to observe that 122 schizophrenics were discharged from the hospital during the past 12 month interval. A majority of these patients were either recovered or improved.

Disposition at End of One Year of Committed First Admissions:

	Admitted	Remaining		Discharged		On Visit	
		Number	%	Number	%	Number	%
November	34	17	50	2	5.9	15	44.1
December	34	12	35.3	7	20.6	15	44.1
<i>1937-38</i>							
January	29	14	48.2	4	13.9	11	37.9
February	34	12	35.3	5	14.7	17	50.0
March	28	13	46.4	3	10.9	12	42.7
April	49	15	30.6	15	30.6	19	38.8
May	31	17	54.8	4	12.9	10	32.3
June	30	11	36.7	8	26.7	11	36.6
July	52	23	44.2	8	15.4	21	40.4
August	45	11	24.4	12	26.7	22	48.9
September	25	10	40.0	6	24.0	9	36.0
October	31	17	54.8	1	3.2	13	41.9
	<hr/> 422	<hr/> 172		<hr/> 75		<hr/> 175	

Of the 422 committed court admissions, 175 patients were dismissed from the hospital and 75 were discharged.

Summary of Special Therapeutic Activities

	Number of Patients	Treatment Days
Insulin	55	900
Metrazol	311	4,355
Narcosis	8	80
Photodyne	10	440
Vitamin	34	599

During the past year emphasis on metrazol insulin and vitamin therapy has yielded beneficial results. Most patients on treatment received metrazol; best results were obtained in the affective reaction types. A physician was put on full time in charge of the treatment wards and hardly any complications arose. Insulin was given to patients who did poorly with metrazol and the results were encouraging. Relapses with both methods of treatment were noted among the group that were chronic. Two patients died as a result of metrazol and the post mortem studies failed to discover any gross visible pathology. The use of vitamins were of great value in the alcoholic group. Photodyne and narcosis therapy although utilized in the beginning of the year have now been replaced by metrazol and insulin. Photodyne (hematoporphyrin) was felt to be of no value in depressions as none of the test cases showed any improvement. When metrazol was administered hysterical manifestations disappeared in nearly all instances.

Wet sheet pack treatments were given to 666 patients; 1,862 were given continuous tub treatments; 645 were given tonic bath treatments; and 324 students received 281 hours instruction. Despite the use of the special treatments the number of patients requiring the wet sheet pack has not been decreased in contradistinction to the experience of others.

Male Reception Service

On the male reception service in keeping with current trends in psychiatry, the major emphasis was placed on insulin and metrazol. Thirty patients received 1,238 days

treatment with insulin and 82 patients had 937 metrazol injections. Results were sufficiently encouraging to continue their use.

Narcosis therapy, utilizing sodium amytal was tried in 6 cases, after a nursing group was trained in techniques — three patients showed marked improvement. One extremely excited manic became profoundly depressed and remained so for some time. One patient, a chronically disturbed patient received no effect from the drug. It was concluded from this brief trial and reports in the literature that in certain selected cases of manic excitement, narcosis therapy was of value in shortening hospital stay and in prompt amelioration of symptoms. The maintenance of an efficient well-trained staff of 4 nurses was required for each 6 patients treated. This cost and the lack of personnel was a bar to its continuation.

Female Reception Service

Thirty-one patients were given both metrazol and insulin treatments and 23 of these patients were released from the hospital after such medication. Seventy-two patients received metrazol only, and half of this group left the hospital after this treatment. Two patients died as a result of metrazol injections.

Neuropathological data has as yet not been completed. The main emphasis of the metrazol treatment during the past year was given to a group of depressed patients consisting of 20, classified as involutional and manic depressive psychoses. This was principally done by Drs. Cottington and Gavigan. The age range was 28 to 59 years and the patients had been ill from two months to five years. Treatments were administered three times weekly, beginning with a dosage of 3 cc 10% aqueous of metrazol, which was increased as necessary to obtain typical grand mal seizures, and were discontinued when remission or considerable improvement had taken place. In this series, 17 patients underwent full remission of symptoms and were discharged. Three manifested definite improvement.

Continued Treatment Service

1. Occupational Therapy. An average of 267 male patients (53%) and 167 female patients (45%) were industrially employed throughout the year. There was a rise in employment from 288 males working in September 15, 1937 to 313 males working September, 1938 and from 231 female patients working in industry September 15, 1937 to 296 recorded September 15, 1938. Effort was made to find new work outlets, especially for female patients, in housekeeping and sewing groups.

2. Recreation consisted of ward games, ward marching, and nurses' ward classes in leisure time for sewing and light O.T. projects and the use of the outdoor playground group walking outdoors. During the summer months, eight dances were held for patients on the service during the year, and motion pictures were shown once a week.

3. A special effort was made to encourage church attendance among patients.

4. Hydrotherapy: 82,919 hours continuous baths, 10,455 hours wet sheet packs, 4,888 tonic suite, colonics and special treatments were given to patients. There has been an increase of such prescriptions to combat destructiveness and excitement of patients disturbing the wards at rest hours.

5. Habit Training, with special attention to the senile and deteriorated patients, was instituted to bring about regularity in toileting, meals, exercise and rest hours.

6. Metrazol was begun in March 1938 on this service. Nine hundred and sixty-nine injections of this drug were given to female patients and 478 to male patients on alternate days. Six patients received a combination of metrazol and intravenous sodium amytal treatment experimentally at the beginning. Metrazol in chronic disturbed patients had a definite effect in improving ward adjustments, reducing feeding problems and un-toward behavior, making the patients accessible to occupational therapy and ward activities. In connection with this treatment, Dr. Holt undertook a survey of the effects of metrazol upon the spinal fluid, making 269 personal examinations.

7. A special study of patients with seizures as a presenting symptom was undertaken. Twenty encephalograms were made; cranial exploration was done upon one patient.

8. Intravenous sodium amytal was given for therapeutic purposes to 8 patients.

9. Prolonged narcosis therapy with sodium amytal and sodium alurate was undertaken on four occasions, the patient, a psychopath with pathological emotionality, responding by better rapport and therapeutic contact.

10. Female sex hormone therapy was supplied for two patients in melancholia without appreciable benefit to the mental status.

11. Epileptics under treatment averaged 5 female and 11 male patients. Phenobarbital was the standard drug used, latterly with the addition of benzedrine to counteract undesirable side effects with large dosage.

In the treatment of any mental illness the approach to the patient must be through his illness and infections, through his altered chemistry, through his endocrines, through his mechanical changes, through more purely psychological methods. No single line of attack will meet the multiple effects of causative factors. There is rarely a case in which a treatment cannot be directed to more than one aspect of it. It is frequently difficult to trace the primary and leading cause of the breakdown and to decide which is to be the first like of attack. Therefore, with the use of insulin, metrazol, vitamin, narcosis or any other special form of therapy the combined efforts of the nurse, occupational therapist, psychologist, social worker and other disciplines were utilized to enhance recovery. Their ancillary services have made it possible to bring about a quick adjustment on the part of the patient.

Teaching

Instruction was given to graduate internes, to Peter Bent Brigham internes and medical students; to social service, occupational therapy, psychology and statistical students, to post graduate nurses and affiliating nurses.

Hours of Instruction:

	Hours		Hours
Post Graduate Nurses	245	Social Service Students	85
Internes	180	Attendants	30
Occupational Therapy Students	115	Psychology Internes	25
Affiliate Nurses	110	Grey Ladies A.R.C.	25
Peter Bent Brigham Internes	100	Graduate Nurses	20
Miscellaneous Groups	20		

Psychiatric internes were given, in addition to experience in clinical psychiatry, guidance in neuroanatomy and neuropathology, an introduction to research methodology a period of orientation in social service and occupational therapy and a month at the Child Guidance Clinic.

Extra Mural Activities

Much demand has been made on the hospital for extra mural instruction. A list of some of the groups receiving instruction follows.

Boston City Hospital Undergraduate Nurses
 Boston University School of Medicine (Sophomore Class)
 Central Baptist Church — Southbridge
 Central District Medical Society of Connecticut
 Chaffin's Parent Teachers Association
 Department, University Extension
 First Universalist Church Mission Club
 Fitchburg Federation of Pastors
 Girl Scouts, Temple Emanuel
 Grafton State Hospital
 Hall Club
 Institute Human Relations, Yale
 Ladies Aid, Adams Square, Congregational Church, Worcester
 Ladies Aid, Congregational Church, Framingham
 Leicester Grange
 Lincoln Square Baptist Church
 Lowell Parent Teacher's Association
 L. H. R. Business Girls of Wesley Church
 Marlborough Daughters of the American Revolution
 Marlborough Forum Group
 Married Couples Club, Spencer, Mass.
 Massachusetts League of Nursing Education
 Massachusetts State Nursing Association. District No. 2
 Mothers' Club, Wesley Church, Worcester, Mass.
 New England Conservatory of Music, Alumni Association of Worcester County
 New England Deaconess Hospital

Neurological Supper Club, Harvard
National Jewish Council of Women
Open Hearth Club, Worcester, Mass.
Oxford Church Group
Psychological Colloquium, Brown and Clark University
Radio Talk, Worcester Federation Churches
Republican New Voters Unit
Smith College School of Social Work
Social Service Case Workers of Worcester
Staff of Worcester Schools
Stoneham Congregational Church
Sutton Men's Club
Teachers Webster-Dudley School System
Tufts Medical School (Junior Class)
Uxbridge Rotary School
Wheaton College Seniors
Whittenagamot Club
Worcester District Dental Society, Study Club
Worcester Girls' Club Leaders
Worcester Hahneman Hospital Undergraduate Nurses
Worcester Memorial Hospital Undergraduate Nurses
Worcester St. Vincent Hospital Undergraduate Nurses
Worcester Young Men's Christian Association

Papers

On May 18, 1938, a symposium on therapy was held at the hospital and many interesting papers were read by members of the Staff of the various mental hospitals. Dr. Walter E. Barton gave a concise treatise on the use of narcosis therapy. The director read a paper at the American Psychopathological Association entitled, "Psychiatric Manifestations of Mucous Colitis. A Case Report."

Certification in Psychiatry

This year all the Staff members eligible to be examined by the American Board of Psychiatry and Neurology were certified. Eight men now hold certificates as specialists. The medical staff is especially grateful to Dr. Paul Yakolev and his colleagues for the comprehensive instruction given in the fundamentals of neuroanatomy, neuropathology and neurophysiology and roentgenology.

Recommendations

It is hoped that in the ensuing year it will be possible to extend the training period of the internes in psychiatry for a period of two years and thereby give them the opportunity to get instruction in other institutions. Instruction is to include a temporary internship at the criminal insane institution, at a school for the feeble minded and at an epileptic colony. More emphasis will be placed on the social aspects of psychiatry to afford the interns an opportunity to realize the resources of the community. A course on hospital administration and the legal aspects of psychiatry will round out the period of training.

NURSING DEPARTMENT

Katharine McLean Steele, Superintendent of Nurses

Standards of Nursing Care:

One of the important functions of the nursing service in a mental hospital is to organize the nursing care of patients on a level higher than "custodial" care. Part of the treatment of patients is to adjust them to a well organized, smooth running environment with an orderly routine in which they participate, either voluntarily or through persuasion. For help in establishing such a treatment situation, the therapy chart has proved of great benefit.

To be of value, the chart must be kept up to date and must be carefully and conscientiously filled out every day. At the end of the month, it is sent to the nursing office from each ward. The administration studies it, compares it with previous months' records, makes comments and criticisms and sends it back to the ward.

THERAPY REPORT

Capacity 24 patients

Ward Hooper Hall; Month December 1938 — Nurse Helen Adams

Day of Month | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15

GENERAL CARE																	
Wash Face	.	.	48	48	48	48	50	50	56	48	46	44	44	52	54	54	56
Brush Teeth	.	.	48	48	48	48	50	50	56	48	46	44	44	52	54	54	56
Bath	.	.	24	24	24	24	25	25	28	24	23	22	22	26	27	27	28
Trim Nails	.	.	8	5	3	5	9	4	1	20	6	8	10	12	10	5	6
Toenails	.	.	10	6	9	6	7	4	1	11	9	10	7	11	9	7	9
Shave	.	.															
Haircut	.	.															
Untidy — Bowels	.	.			1	1											
Urine	.	.			1	1	2										
Toileted — Bowels	.	.			2	2			1			3		3	2	5	
Enema	.	.															
Menstruation	.	.	1	1	1	1	1	1	2	4	2	1	1	1	1	1	
Beauty Parlor	.	.			10		6	13		12		6	14				5

PHYSICAL ACTIVITIES

Out of Doors	.	.	20	19	24	5	12	R	15	7	R	R	20	21	22	6	22
Marching Ward.	.	.	17	20	20	12	16	26	24	24	22	22	16	17	20	24	22
Calesthenics	.	.	19	20	20	19	20	20	20	20	8	9	10	11	10	8	20
Dancing, Ward	.	.	20	18	16	15	10	8	9	8	16	11	12	12	9	6	18

RECREATIONAL ACTIVITIES

Ward Games	.	.	15	18	20	20	22	20	20	20	20	18	20	21	19	20	22
Group Singing	.	.	17	16	24	17	20	18	14	15	23	21	17	18	11	12	16
Group Reading	.	.	20	19	10	16	17	14	10	10	15	16	19	20	2	10	19
Special Radio	.	.	24	24	24	24	25	28	26	24	23	22	21	18	8	28	28
Library	.	.	11	1	2	3	2	5	4	4	4	5	6	6	7	11	
Books Given	.	.	12	14	4	6	4	14	10	5	20	18	10	11	5	10	14
Church	.	.			14				12			15					21
Dance	.	.															
Entertainment	.	.															
Party	.	.															

OCCUPATIONAL THERAPY

Hospital Work — Cafe	.	.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4
B. Parlor	.	.	2	2	2	0	2	2	2	2	2	2	0	2	1	1	2
Sewing Room N. Home	.	.	2	2	2	0	2	2	2	2	2	2	0	2	3	3	3
Industrial	.	.	1	1	1	0	1	1	1	1	0	0	0	1	1	0	
M. Room	.	.	3	3	3	0	3	3	3	3	3	3	0	2	2	2	2
Dining Room	.	.															
Engineer	.	.															
Outside	.	.	2	2	2	2	2	2	0	0	3	2	2	1	1	1	2
Others	.	.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Ward Work

Bed Making	.	.	21	20	22	19	20	22	24	23	20	21	20	21	21	21	20
Sweeping	.	.	17	19	19	19	17	17	17	8	8	9	10	10	10	10	8
Dusting	.	.	11	12	12	17	18	19	19	2	2	3	4	4	4	4	5
Toilets	.	.	2	3	4	3	3	3	3	3	1	1	2	2	2	2	2
Bathroom	.	.	3	4	4	4	4	4	4	2	2	3	3	3	3	3	3
Wash Windows	.	.	2	2	2	2	2	2	1	1	1	1	1	1	1	1	1
Polishing	.	.	1	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Swabbing	.	.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Linen	.	.	5	4	4	4	4	4	4	2	2	2	2	2	2	2	2

Class Work, Ward

Sewing	.	.	18	16	10	17	16	18	16	8	8	9	9	10	10	10	12
Mending	.	.	9	10	2	10	12	15	12	4	0	3	3	3	8	8	6
Arts and Crafts	.	.															
Other Work	.	.															
O. T. Center	.	.	10	10	0	10	10	11	13	9	3	3	0	16	9	0	0

Comments on Therapy Chart — Hooper Hall One — November 1938:

General care of patients this month is satisfactory. A daily bath for each patient. This is quite commendable. Toe nails and finger nails seem to have been given sufficient care.

I am glad to note that you have checked the incontinence in the one patient. The result of habit training undoubtedly. Your beauty parlor report is an excellent one. It shows that each patient visited the beauty parlor at least four times during the month.

Recreational and occupational reports are very good.

It shows that your patients are continually engaged in some form of therapy.

A ward party for your patients. This is good.

You have no accidents recorded for the month. Is this correct?

Your report in general is an excellent one. It is the kind of report I like to see, especially on the admission ward.

This kind of treatment should aid greatly in the ultimate recovery of these patients.

Monthly averages of such items as baths, beauty parlor treatments, shaves, haircuts, have been summarized for the year, 1938. The following figures will show to what extent the nursing service is able to rise above the minimum standards which have been set.

	<i>Minimum Standards</i>	<i>Averages for 1938</i>
	<i>per month</i>	<i>per patient</i>
	<i>per month</i>	<i>per patient</i>
Baths	12	22.9
Beauty Parlor Treatments	2	2.4
Shaves	12	12.8
Haircuts	1	1.6
Ward parties		3.0

General care is of first importance and as part of the physical care of patients' habit training, deserves emphasis. There is no group of deteriorated, untidy patients whose habits and appearance cannot be greatly improved on a ward where all the personnel conscientiously carries out a program of habit training with regularity of toileting, exercise, eating, sleeping, and bathing.

On a large ward on the continued treatment service, the simple procedure of washing hands and face and brushing the hair and teeth becomes a difficult task unless the patients are trained to take part in these activities in a systematic and orderly manner at the same time each day. Some patients are able to assist in the supervision of other patients, making the procedure somewhat simpler.

The therapeutic effect of frequent shaves, haircuts, manicures and beauty treatments is well known. Minimum standards should be set for these treatments and a vigorous effort made on the part of the nursing personnel to rise above these standards. Again, patients can do a very large part of the work in the beauty parlor and barber shop under the supervision of trained employees. This placement in the industrial program has the advantage of being excellent therapy for the working patient.

Physical Activities:

All patients need to get outdoors every day that the weather permits. It gives them a new perspective and at the same time keeps them in touch with reality. This is an activity that drops to a minimum unless there is constant insistence of its importance. The daily report from each ward is sent to the administration, with census of the ward, the number of working patients, the number of infirm patients, the length of time they were outdoors. We believe more benefit is derived from a small group than from the large formal marching groups.

Marching on the ward is done daily when possible after dinner, and after supper, with the windows of the ward open. By calling the radio room, martial music is played. Active participation is gained even on the part of the schizophrenic, who is withdrawn and preoccupied, and though the response may be mechanical, the activity and fresh air are beneficial. The nurse organizes a group of patients for calesthenics early in the day before other activities start. Dancing to music from the radio may be done with individual patients at any time during the day when the patients seem to have slumped into inactivity.

Recreational Activity:

Many nurses do not seem to have experience in organizing recreational activities. Classes taught by the Recreational Director of the Y. M. C. A. have been found to be very stimulating and helpful. There is an endless variety of games that can be used on the wards such as beano, bridge, checkers, ring toss, soft ball or bean bag throwing, jigsaw puzzles, all types of solitaire, etc.

Group activity singing, reading, listening to the radio, ward parties furnish a variety of occupation for patients in the evening. It is the recording of all these activities on the therapy chart and the commenting upon them monthly by the administration that stimulates competition and enthusiasm.

Occupational Therapy:

The industrial activities are taken care of and reported upon by the occupational therapy department, but it is the responsibility of the ward personnel to see that patients are ready for their job and interested in it. The housekeeping on the ward can be made into a therapeutic activity, patients can get pleasure in being taught to make a bed cor-

rectly, cleaning windows, washing floors and polishing, if pride in the appearance of the ward is built up.

When the nursing personnel is made responsible for all the occupational therapy that is done on the ward, either in class work or individually, cooperation between the nursing service and the occupational therapy department is essential. The O.T. department furnishes the material, stimulation and advice, and the nursing department carries out the activity.

Summary of the Sick Leave Program in the Worcester State Hospital for 1938 — Katherine R. Dick, R.N., Asst. Supt. of Nurses:

1. Desirability — The hospital favors the practice of continuing sick employees on the payroll for a time. Health hazards exist in an institution over which the employee has no control. We therefore believe that sickness acquired in line of duty should not be an occasion to penalize the employee. A few simple rules cover the compensation for time lost due to illness.

2. Who is eligible to receive benefit? All employees who have been in the service of the hospital six months or longer.

3. Method — (1) Group one constitutes all employees working on a per diem basis or forty-eight hours a week. The maximum time for which sick leave with pay will be granted in any one year is twelve working days. (2) Group two comprises the administration staff and heads of departments. Persons in this group are available for duty any hour of the day or night. More sick leave than indicated in (1) may be considered advisable for group (2). The superintendent is the judge when such exceptions arise.

(3) In order to secure sick leave with pay, the employee must consult a physician of the medical staff of the Worcester State Hospital in the employees' clinic, or a physician in practice in the community.

(4) Employees hospitalized under the direction of the Worcester State Hospital physician will receive compensation from the first day of illness.

(5) Employees who elect to remain home will not receive sick leave with pay until the third day of illness unless after that time they produce the required certificate duly signed by a physician practicing in the community.

(6) A *sick report* card is kept on file, properly filled out on each employee absent by reason of illness.

The sick leave program was instituted June 1, 1938. The following study, from June 1, 1938 to December 1, 1938, was made from the daily time sheets and the sick report cards for the nursing service of the main hospital.

89 employees were ill 454 days:

50 of the 89 were in service 6 months or longer, were ill 335 days.

41 of the 50 were ill 295 days, illness certified, paid for 214 days.

There were 90 surgical days:

3 appendectomies	76 days	paid 36 days
2 tonsillectomies	14 days	paid 12 days
	—	—
	90 days	48 days

The following were out six days or longer:

1 pyelitis	23 days	paid for 11 days
1 gout	13 days	paid for 11 days
1 facial neuralgia	8 days	paid for 6 days
1 furunculosis	8 days	paid for 7 days
1 abscess soft palate	6 days	paid for 6 days
3 acute infections	23 days	paid for 20 days
	—	—
	81 medical days .	paid for 61 days

The following were injured in line of duty:

1 fracture rib	9 days	paid for 8 days
1 fracture finger	10 days	paid for 6 days
1 fracture metacarpal	6 days	paid for 5 days
1 fracture toe	4 days	paid for 4 days
	—	—
	29 fracture days .	paid for 15 days

In the nursing service in the main hospital:

17 persons ill as listed lost 200 days, paid for 124 days.

6 persons ill for less than six days each, these persons lost through illness 95 days and were paid for 90 days.

The following is a summary of time lost for the entire hospital through sick leave, covering persons in the service six months or longer: Employees off, 80; days off, 619; days paid, 514.

Recommendations:

1. That one year of service be required before an employee is eligible to receive compensation.
2. That employees who elect to remain at home may receive compensation from first day of illness upon presentation of a doctor's certificate.

NURSING EDUCATION

Evelyn H. Pettee, Director of Nursing Education

The work of the department has continued substantially the same as in the past year.

Four students completed the eight months postgraduate course in psychiatric nursing in May, 1938. All of these nurses have continued in psychiatric nursing, two as head nurses at this institution, one at the Neuro-Psychiatric clinic in Ann Arbor, Michigan, and one at the Westchester Division of the New York Hospital in White Plains, New York.

Two students were enrolled in the postgraduate course for 1938-39. In spite of this small enrollment, we feel that the course which is still in its infancy should be continued. Considerable interest, as well as an evident need for such a course, has been manifest. We feel that the enrollment will increase after the prestige of the course becomes established, in large part, through its graduates.

Worcester Hahnemann, Memorial and Saint Vincent hospitals have continued to sent seven of their students to us every three months for a psychiatric affiliation until October, 1938, when we were authorized to utilize unused postgraduate "blocks" for additional affiliate nurses. This raised our affiliate quota to twelve every three months and made it possible for us to accept students from the Burbank Hospital in Fitchburg.

The twelve student blocks are filled as follows: Burbank Hospital, 2; Worcester Hahnemann Hospital, 2; Worcester Memorial Hospital, 5; Worcester Saint Vincent Hospital, 3.

A thirty-three hour lecture course in psychiatry and psychiatric nursing was given to a large group of student nurses from the previously mentioned Worcester hospitals for whom a psychiatric affiliation could not be provided.

All new employees continue to receive orientation lectures and all new attendants a course which deals with hospital routine and the essentials of the care of mental patients.

A course for a group of Grey Ladies of the American Red Cross was organized in 1938 and a series of thirteen lectures given. After successfully completing the course, a certificate was awarded and the Grey Ladies assisted in the escorting of visitors.

During the past year, monthly reports have been instituted, new student report forms adopted and a new postgraduate course outline printed.

The nursing service has also contributed in small part toward the community education program through speaking engagements.

The department of nursing education has co-operated with the other departments of education in the hospital so that in many subjects the nurses have had classes in conjunction with students from the other departments.

We believe this is very stimulating and hope for even more contact with other departments in the future.

OCCUPATIONAL THERAPY DEPARTMENT

Dorothea W. Cooke, O. T. Reg. Director

The present program of Occupational Therapy has been functioning for four years. During the past year much of this program has crystallized to the point where it has become a decided factor in the improvement and recovery of patients in the hospital. Our aims have been:

1. To ever-increase the scope of organized therapeutic activity to include the entire patient population, namely:—a. Newly admitted group. b. Continued-treatment group. c. Medical and surgical group.
2. To educate hospital personnel in the essentials of the role they must enact and in their responsibilities in such an inclusive program.

The *newly admitted group* are sent to the two pre-industrial occupational therapy shops, unless there are contra-indications, mental or physical. Handicraft activity, in which individual endeavor is combined with the experience of working with others, predominates. Concentration and coordination are important in the patient's adjustment. The ability to accept and follow directions and instructions and to take criticism is emphasized, and also the necessity of adapting to and facing reality. To the occupational therapist in charge of the shop falls the responsibility of finding an adequate form of occupation that will drive the patient out of his pleasant state of unreality to take the first step in facing the real situations of life.

Treatment equals the relationship between the therapist and her patient, plus the activity, plus the environment; and so we find that it has been very important to make our shops as colorful and attractive as possible. Neatness and orderliness also play an important part in the re-education and re-establishment of a normal behaviour pattern.

We find, however, that the craft type of occupation is not rooted in reality and tends to keep a patient so inclined away from reality, if continued too long. Thus we have been developing Industrial or Work Therapy until it has become the focusing point of our entire program, and as rapidly as possible patients are promoted from the shops to Industrial Therapy.

For the *newly admitted group* and the *continued-treatment group* Industrial Therapy presents the next step in rehabilitation. This service has two primary purposes: it may help the individual to find a niche for himself within the hospital community, or it may be a stepping-stone in the necessary adjustment he must make in order to return to the normal workaday world. In prescribing this form of treatment for patients only such tasks are chosen as may have treatment or training value and are within the mental and physical capacities of the individual patient. Cooperation, patience, and a certain amount of initiative are important if one is to work with ten or twelve others. Self-control and tact become essentials if harmonious relations are to be maintained in a group-work situation, such as the serving counter in the cafeteria, and we find that a patient held up to these demands soon benefits.

Our ultimate aim is, of course, the return of the patient to his own community with a new grip on life and a new confidence in self. However, if this is not possible, he is much better off in being a responsible member of the hospital community, participating in useful activity and in becoming an economic asset within the institution.

For the *medical and surgical group*, classes on the ward are the responsibility of the ward nurse, who in turn is guided by the occupational therapist. The occupational therapy department has charge of a Supply and Preparation Room, open three times a week at regular hours, where the nurse may obtain handicraft projects prepared for completion, materials, instructions, and advice.

In the *continued-treatment group*, ward classes supervised by the nurse, supplementing Industrial Therapy, have been developed for the deteriorated, disturbed, and senile, and also for any patients who may temporarily be unable to adjust to the demands of a daily task and for whom the occupational therapy shops can not care, due to the lack of time, space, and personnel.

For the past year patients have received treatment under Occupational Therapy as follows:

<i>Main Hospital</i>	<i>Male</i>	<i>Female</i>
Total monthly average number of patients in hospital	901	883
Total monthly average number of patients receiving treatment in occupational therapy shops (chiefly newly admitted and insulin and metrazol patients)	49 or 5.44%	79 or 8.95%
Total monthly average number of patients working in maintenance industries (placed by physician's prescription)	598 or 66.37%	407 or 46.09%
The remainder of the patient population:		
Medical and Surgical patients	128 or 14.21%	142 or 16.08%
Continued treatment and newly admitted patients unable to adjust to industry	126 or 13.98%	255 or 28.88%

The last two groups are kept occupied on days they are able to work in ward classes supervised by the ward nurse, the Occupational therapist being responsible for the preparation and supplying of materials with which to work.

Recreational Therapy is also a part of our therapeutic program. A continuous schedule is carried on for all types of patients, graded as to the demands of the groups.

Until such time as we are able to include a well-trained recreational director as a member of our department, the parties, daily marching, and games on the ward are the responsibility of the ward nurse. Community recreation, holiday celebrations, dances, community singing, and the providing of recreational equipment are all the responsibility of the director of occupational therapy.

Our dances are different from those in most mental hospitals. We try to have them coincide with holidays to permit attractive decoration. They are held at irregular intervals rather than weekly. The list of patients is carefully selected by the physician for purely therapeutic reasons. Each patient is held to a high standard of conduct and appearance. The dances have all the aspects of normal social affairs, presided over by the occupational therapist. One important rule is that no one shall attend in uniform.

For the continued-treatment group, who often exhibit bizarre conduct and eccentric dress and behaviour, occasional dances are also arranged.

Education—The success of this entire program depends upon the intelligence and understanding of the hospital personnel in cooperating with the occupational therapy department. For their guidance certain responsibilities have been outlined by our superintendent, and it has become our responsibility to broadcast these in daily contacts to: a. New physicians joining the staff. b. Nursing group. c. Department heads. d. Industrial therapists (personnel directly supervising patients in maintenance tasks).

Occasional formal talks and question periods are arranged for the nursing supervisors. Weekly visits to the Supply and Preparation Room offer an excellent opportunity for a better understanding between the ward nurse and the occupational therapist.

Attendants, newly admitted to the hospital are given a lecture on the occupational therapy program and what their responsibilities are.

Affiliate nurses from General Hospitals attend lectures and spend one week in each shop, with the added experience of being responsible for a ward class.

Postgraduate nurses receive sixteen hours in lectures on theory of occupational therapy and one month's experience in practice.

Few medical schools devote time to occupational therapy except in passing reference. Yet, although a knowledge of our technique is not necessary, an appreciation of it is essential. Therefore all medical students are taken on Industrial Rounds to see the activities prescribed and the patients actually at work.

Special internes here for one year spend two days in the department observing the different services.

Lectures are given to the group of Family Caretakers, pointing out how they may continue this treatment in their homes with the patients in their care.

Included also in our educational program are sixteen students each year from the Boston School of Occupational Therapy. These students come to us for six-month periods of practical experience in the mental field. Their curriculum provides thirty hours of lectures on the Practice and Principles of Occupational Therapy in this field.

With all these groups our aim is the constant promotion of a better understanding of the breadth of this unified program and of the facilities of the occupational therapy department, which may be developed to the advantage of every patient.

SOCIAL SERVICE DEPARTMENT
Barbara Estes, M.S.S., Head Social Worker

One of the major concerns of the Social Service Department might be stated as follows: "Referred to the Social Service Department, John Jones and Mary Smith to be placed in Family Care. Vacancies in Family Care home, — 2 for men, 1 for a woman; waiting list of patients referred for Family Care, — 5 men, 3 women." The problem appears obvious and simple of solution, — namely, (1) accept the applicants and place those referred to the department and, (2) fill all vacancies from the waiting list. The problem, however, cannot be so simply solved.

In September 1938 we were granted an additional worker, Mrs. Hildur Ekdahl, on a one year appointment to work on Family Care problems with Miss Harrington. During the year 93 patients were placed in Family Care homes, of whom 39 or about 42% were placed during the last three months, or since the appointment of a second worker. During the first nine months 10 boarding homes were investigated. During the last three months 54 homes were investigated. An indication of the time consumed

in such investigations and the difficulty in finding suitable homes is revealed in the fact that of these 54 homes, only 9 were finally accepted. The reasons for this are varied, including unsatisfactory references, distance from the hospital, unsuitability of the family, (e.g. a single woman wanting to board male patients and unable to accept women because she has a male boarder) or, more commonly, the final decision of the family that they cannot accept patients at state rates of \$4.50 per week. There is no question but that we could place at least twenty more patients if we could guarantee \$7 or even \$6 per week. Many applicants withdraw with the explanation that they can get elderly people who are receiving Old Age Assistance of \$25-\$30 per month and who are, after all, much less care than mental patients. It is a tribute to the sincere interest of our many caretakers that they accept their responsibility so adequately and so cheerfully.

The second problem, the co-existence of vacancies and a waiting list, similarly, is not so simple of solution. Mary Brown has to be placed in a home near a Catholic Church and the vacancies for women are all in the country far from such possibilities. Or John Smith, a young man, needs to be with an understanding family so situated that he may have opportunities to look for a job, while Robert Jones, an elderly man of culture and refinement, wants to be near a library where he can indulge his fondness for reading. Neither of these men will fit into the present vacancies which are most suitable for middle aged men who enjoy simple farm tasks. That it does not pay to try to force square pegs into round holes has been clearly demonstrated in certain instances. A young woman placed in a home which did not suit her, became so prejudiced against Family Care that she had to be returned to the hospital and refused ever to consider placement in another home. She also spread stories which influenced other patients against boarding out. Also the placement of a patient in a home in which he is not happy, may so irritate him that he upsets the household, and in the case of a new caretaker, may discourage her and influence her to give up the project. Human beings are not all square pegs to be fitted into the square holes of boarding homes; rather, like the pieces in a psychological form board, they must be placed in the environment in which they best fit.

It has been a great help to the workers this year, to have Dr. Watson assigned to the care of boarding out patients. Much time is saved and more efficient medical and psychiatric service can be given when the patients are under the supervision of one physician who knows them well. During the year 364 calls were made on Family Care patients by the physician and 1,225 calls by social workers.

Statistics for the department as a whole include the following:

New cases assigned	1,963
Histories taken	367
Supplementary information contributed on other cases	715
Investigations made	1,927
Interviews held	5,236
Patients placed in Family Care	93
Patients status changed from Family Care to visit	20
Patients discharged from Family Care	8

During the past year we have had our customary students, three from the Smith College School of Social Work and two from Simmons College School of Social Work. We have had, in addition, a student from Boston University School of Religious and Social Work, a young man who lives nearby and does not, therefore, require maintenance. We are very glad to accept our first student from Boston University and hope that the present pleasant relationship may continue.

The head social worker attended the National Conference of Social Work in Seattle, Washington. The opportunity to visit two state hospitals in Washington and to talk with workers from Vancouver and Victoria, as well as from other western hospitals, was a valuable experience. Two workers attended the supervisors conference at Smith College in July, and the Massachusetts State Conference of Social Work held in Boston in November was attended by the entire department.

Lectures have been given as usual to medical students, nurses and occupational therapy students, as well as to our own social service students. Several lectures or more informal talks were given by members of the department to outside groups, the most distant being to the staff of the Western State Hospital near Tacoma, Washington.

We feel that the general efficiency of our work has improved this year and we are grateful for the fine cooperation from all other departments in the hospital which con-

tribute to the smooth operation of our department. We again end the year with an urgent request for the permanent appointment of an additional worker for Family Care.

RESEARCH DEPARTMENT

Andras Angyal, M.D., Resident Director of Research

A great part of the activity of the Research Service during the last year was the continuation of the investigations on the effects of insulin treatment of schizophrenia and, less elaborately, of metrazol. While the work was primarily oriented toward therapeutic results, a number of subsidiary problems were studied with a view to determining the mechanism of the effects and to learning under what conditions favorable results may be obtained.

In addition to other activities the Psychology Department, under the direction of Mr. David Shakow, devoted considerable time to the study of the behavior and mental activities of patients in the various phases of insulin and metrazol treatment. The activity of this department is reported in greater detail separately.

The insulin work was supervised by Dr. D. Ewen Cameron and was shared by all the departments. Twenty-two of the more acute cases were treated. Ten patients had a good remission and twelve did not respond favorably to insulin treatment. When the group of recovered and non-recovered patients had been compared, distinct differences in the physiology became evident:

1. Recovered patients had a low blood pressure before treatment as contrasted with a group of non-recovered patients who originally had a normal blood pressure. After treatment the recovered patients showed a significant increase in their blood pressure.
2. The recovered patients showed initially an entire lack of constant relationship between free cholesterol and ester cholesterol of the blood, while in this respect the non-recovered patients were normal. After cessation of the insulin treatment in the recovered patients it became stabilized.
3. The inorganic phosphorus of the blood was originally super-normal in all of the patients and decreased significantly in the recovered patients only.
4. The recovered patients were underweight before treatment, while the non-recovered patients were of normal weight. Under treatment the weight of the recovered patients increased.
5. Only the recovered patients showed an increase in pulse rate; the non-recovered patients remained unchanged in this respect.
6. The recovered patients showed a more marked increase in blood circulation time than did the non-recovered patients.

On the basis of the foregoing evidence the hypothesis is offered that there is one subgroup of schizophrenics whose psychosis is significantly determined by initial depression of the adrenal-sympathetic apparatus. It is this group which responds favorably to insulin, and the behavioral effect may be due to improvement of the adrenal-sympathetic functions.

In addition to the insulin study Dr. Cameron continued his investigations in association with Drs. H. Hoagland and M. A. Rubin upon the effects of emotion upon the brain wave picture, leads being taken not only from the cortical regions but from an area in the neighborhood of the hypothalamus. In view of the fact that the insulin results indicated that the adrenal activity, particularly of the recovered cases, was much increased, Dr. Cameron, in association with Dr. Rubin, studied the effects of adrenalin injections upon the brain wave picture. In association with Mr. R. Moore of the Psychology Department the effects of the same drug upon certain personality traits were studied. As a further test of the activity of the sympathetic-adrenal system Dr. Cameron investigated the use of the so-called ice-water test. Immersion of one extremity in ice-water has been found to cause a greater rise in blood pressure in individuals with abnormal sympathetic activity. He also carried out a study on the early symptoms of schizophrenia with a view to making possible earlier detection and hospitalization of such cases.

In November, 1938, Dr. Cameron left the Worcester State Hospital to assume professorship in psychiatry and neurology at the Albany Medical College. He was succeeded by Dr. A. Angyal.

In previous publications Dr. Angyal reported on a group of schizophrenics characterized by the presence of a particular clinical syndrome, (depersonalization, experience of motor influences, auditory hallucinations with endo-somatic localization and disturbance

of psychomotor activity.) It was inferred that the syndrome might be due to atrophy in certain sections of the parietal cortex. In order to test this hypothesis pneumoencephalographic studies were carried out on a number of schizophrenic patients having this syndrome. In order to obtain a further objective check the same patients were also studied by Dr. Rubin by the electro-encephalographic method. The evidence points to the fact that a rather close correlation exists between the syndrome and parietal atrophy.

Dr. Angyal also devoted considerable time and effort to the completion of a monograph entitled "Foundations for a Science of Personality." The monograph was written to afford an interpretational background for physiological as well as for psychological facts. Two sections have already appeared as articles in scientific journals.

During the past year Dr. L. H. Cohen has devoted his energies almost exclusively to the metrazol project. The primary purpose of this study was to determine the therapeutic efficacy of the drug and the best way of utilizing it. In all, 153 schizophrenic patients were treated and a number bearing other psychiatric labels were used as controls. In patients treated early in their psychosis the results were excellent. In more chronic cases the degree of improvement was in general less striking, but in a high proportion of the chronic cases in which over-activity and excitement were outstanding features, a marked quieting effect was obtained. Two outstanding results of administering metrazol in the conventional method are convulsions and anxiety. Whether the convulsions are necessary to therapeutic success was studied by giving to a group of patients enough of the drug to evoke anxiety but not convulsions. The therapeutic results were less marked than with the conventional treatment. The same problem was approached in another way, namely, by giving sufficient amounts of a sedative drug (sodium amytal) to prevent convulsions. It seemed to have the general effect of lessening the efficacy of the metrazol, and in this measure to detract from therapeutic results. Another method of using the drug was to give it in relatively large doses intramuscularly rather than by vein. The patients were thus brought into a condition where repeated convulsions occurred. No particular advantage of this method could be seen and since it added to the dangers of toxic injury it was discontinued.

A study was made by Dr. Cohen in association with Dr. W. Freeman on the effect of metrazol on the various organs of rats. Also in collaboration with Dr. W. Freeman, post-mortem examinations have been made on three patients who had at some time been on metrazol treatment, and no pathological findings were obtained which could be regarded as metrazol effects.

Dr. Cohen is carrying out a study in association with Dr. L. Randall on the serum lipid values of excited and calm schizophrenic patients.

Dr. C. Wall made an attempt to find common characteristics in a small group of schizophrenic patients who had responded to insulin treatment and to contrast these with a group who did not respond. The two groups showed suggestive differences in addition to the difference in duration of psychosis. The patients who responded showed in general a rapid onset, or an acute episode in a gradual onset. In contrast with the other group, they were capable of a considerable amount of "normal" emotion. Follow-up observations have been made on the above patients throughout the year. In another study data on the behavior of patients during hypoglycemia were correlated with the therapeutic success and an explanation of the correlation was attempted. Dr. Wall also made a study of pathological reflexes in schizophrenia. Reflex abnormalities in schizophrenia have been reported by several other writers. Dr. Wall checked the results of these reports on 50 schizophrenics and 20 normal subjects. Only 2 of the numerous reflexes proved to be at all instructive, namely, those of Schrijver-Bernhard and Piotrowski. However, these reflexes were found also in 2 of the 20 normal subjects, hence they are not of absolute diagnostic value. In conjunction with Dr. Rubin, Dr. Wall made a study on the effect of metrazol on the electrical activity of the brain in 11 patients.

Dr. H. Freeman, in collaboration with Dr. Rodnick, studied the effects of a "thermal stress" situation upon various cardio-vascular and respiratory mechanisms in 20 normal and 20 schizophrenic subjects. The lesser response of the patients in blood pressure, heart rate and respiratory rate and depth seems to indicate that the schizophrenic patients as a group have a diminished reactivity. Dr. Freeman studied the arm-to-carotid circulation time in 22 acute schizophrenic patients who received insulin treatment. The mean circulation time was decreased by the insulin treatment by approximately 3 seconds. Of these patients, 10 improved and the others showed no change.

Both groups showed more stability in this function both within and among individuals as a result of the treatment, but the group which improved exhibited a greater change in this respect than the others. In collaboration with Dr. Rubin, Dr. Freeman studied the effect of NaCN on the brain waves. NaCN was used because of the apparent similarity of its respiratory effects to those of subconvulsive doses of metrazol. In 22 patients, 0.7 cc. NaCN accentuated whatever brain rhythm was present previous to the injection.

Dr. Freeman has been experimenting with a new therapeutic technic. By the use of cyclopropane he is producing rapid changes in the state of consciousness. In six chronic cases no satisfactory results were obtained, but in two acute cases being studied at present the results are encouraging.

Dr. M. A. Rubin investigated the spontaneous electrical activity of the cerebral cortex as a whole, rather than in terms of its separate parts. The resultant distribution curves of alpha activity along the head from both cerebral hemispheres of normal individuals yielded information of considerable neuro-physiological interest. Application of this "mapping" technic uncovered a new method for localizing cortical atrophy. The method is based mainly on the differences observed in alpha activity of corresponding areas in the two cerebral hemispheres when atrophy is present.

Studies of the electro-encephalogram in "emotion" were also carried on in collaboration with Drs. Cameron and Hoagland. One of these studies was concerned with the relation between slow (delta wave) activity in the cerebral cortex and "emotion." In both normal and schizophrenic subjects, the delta wave activity increased with an "emotional" response to verbal stimulation. It seemed that the electro-encephalogram is a better index of "emotion" than the electro-cardiogram. In the other study (with the assistance of Dr. J. J. Tegelberg) simultaneous electrograms from the cerebral cortex and from a region near the hypothalamus brought out certain differences in the activity of the two organs. When an "emotional" response was evoked, delta waves appeared under the "Hypothalamic" electrode before they were recorded from the cortical lead.

The effect of adrenalin on the cortical electrogram was studied in collaboration with Dr. Cameron. It was found that intravenous adrenalin was entirely without effect while when administered subcutaneously it altered the per cent time alpha in schizophrenic patients but was without effect on normal controls.

In collaboration with Dr. Wall the effects of metrazol on electrical activity of the brain have been studied. Simultaneous records from the head and from the musculature of the left arm confirmed the conclusions that the metrazol convulsions were of central nervous origin.

Dr. Rubin also co-operated on the various therapeutic projects studying the changes in the electro-encephalogram before, during, and after treatment.

During the year the biochemical laboratory, under the direction of Dr. J. N. Looney, has collaborated on studies on the effect of insulin on schizophrenic patients. Calcium, phosphorus, potassium, lactic acid, blood gases and glutathione were determined twice weekly for the two weeks before the insulin treatment and for two weeks after the completion of the therapeutic program. Blood lipids and choline esterase were done once a week. In addition lactic acid, pH, blood gases, and sugar determinations were made at intervals during the period of coma and one hour after glucose was administered.

As a part of an extensive study of the sex hormone factor in schizophrenia, considerable attention has been paid to assay methods. The "characteristic curves" for gonadotropic material (Armour's maturity factor) have been fairly well established in immature male and female rats, using several organs as indicators. Similarly, considerable progress has been made in establishing the curves for testosterone propionate.

The work on isolation of gonadotropic substances from the adrenal glands as reported last year has been continued by Dr. Looney and Miss Howe. Fractions were made according to the technique of Pottenger and also of Hoffman. This showed only slight evidence of activity. Several fractions have been made by use of dibutyl ether and also by the use of dioxane. In preliminary tests suggestions have been obtained that the aqueous-alkaline fractions made from these solvents have a female stimulating, male-depressing effect. Ether soluble residue from the sodium NaOH treatment has given some evidence of a male gonado-tropic effect. Miss Howe has also worked with the colorimetric detail of gonadogens extracted from the urine of the schizophrenic patients by the benzol extractor of Koch.

In a group of patients who are to receive testosterone, determinations are being made of the androgens and estrogens as well as the pregnadiol glucuronide output of the urine.

In collaboration with Dr. Cohen, Dr. Randall and Mr. Romanoff have studied the effect of metrazol on lipid and choline esterase of schizophrenic patients and also in excited as compared with calm patients.

Dr. William Freeman and Miss Ruth Kennedy have carried out an investigation on the effect of metrazol convulsion on the various organs of rats, including the brain.

The insulin study provided a large portion of the work performed by the Biometric Department under the direction of Mr. E. M. Jellinek. There was first the continuous recording of this data, next the preliminary analysis, and lastly a detailed final analysis. The most outstanding results have been referred to already in connection with the insulin study.

The experiments of Dr. H. Freeman relating to insensible perspiration, oxygen consumption, and skin and body temperature under various conditions were subjected to exhaustive analysis.

The results of Dr. Cameron's ice-water test as well as his eserin and adrenalin studies received preliminary statistical analysis. Special studies pertaining to oxygen consumption were performed.

Dr. Lengyel has been making a study of spontaneous remission rates in schizophrenia. This was based on the records of the hospital starting with the year 1910. It is hoped that upon completion of this study control material will be available for evaluating remission rates in various therapeutic procedures. As a by-product of this study mortality tables in schizophrenia will be produced.

On the theoretical side, Lambda techniques have been perfected now to such a degree that they have become available for practical application.

Numerous small analyses have been prepared pertaining to various physiological and psychological studies.

The papers published by the members of the Research Staff are incorporated in the complete list of publications from the hospital.

Publications from the Worcester State Hospital

December 1, 1937-November 30, 1938

1. *Protamine Insulinate in the Treatment of Diabetes in Psychotic Patients.* Joseph M. Looney and W. Everett Glass. Am. J. M. Sc. 194: 810, December, 1937.
2. *Oxygen Metabolism in Schizophrenia.* R. G. Hoskins. Arch. Neurol. & Psychiat. 38: 1261, December, 1937.
3. *Some Uses and Abuses of Statistical Method in Psychiatry.* E. Morton Jellinek. Biometric Bull. 1: 97, December, 1937.
4. *The Use of Fiducial Probability in the Interpretation of Inclusive Experiments.* Robert Dorfman. Biometric Bull. 1: 97, December, 1937.
5. *A Test of a Sample Variance Based on Both Tail Ends of the Distribution.* John W. Fertig with the assistance of Elizabeth A. Proehl. Annals of Mathematical Statistics. 8: 193, December, 1937.
6. *Scatter on the Stanford-Binet in Schizophrenic, Normal and Delinquent Adults.* Albert J. Harris and David Shakow. J. Abnorm. & Social Psychol. 33: 100, January, 1938.
7. *Studies in Vibratory Sensibility.* L. H. Cohen and S. B. Lindley. Am. J. Psychol. 51: 44, January, 1938.
8. *Understanding the Parent.* Milton E. Kirkpatrick. Understanding the Child. 6: 3, January, 1938.
9. *He is My Child, Too.* Esther C. Whitman. Understanding the Child. 6: 19, January, 1938.
10. *Further Experiences in the Insulin-Hypoglycemia Treatment of Schizophrenia.* D. Ewen Cameron. J. Nerv. & Ment. Dis. 87: 14, January, 1938.
11. *The Early Diagnosis of Schizophrenia by the General Practitioner.* D. Ewen Cameron. New England J. Med. 218: 221, February, 1938.
12. *Oxygen and Carbon Dioxide Contents of Arterial and Venous Blood of Schizophrenic Patients.* J. M. Looney and H. Freeman. Arch. Neurol. & Psychiat. 39: 276, February, 1938.

13. *The Definition of Ambivalence.* Saul Rosenzweig. Brit. J. M. Psychol. 17: 223, March, 1938.
14. *Relations of the Adrenal Glands at Autopsy with Clinicopathological Findings and with Blood Vitamin C.* William Freeman and W. Everett Glass. Am. J. Clin. Pathol. 8: 197, March, 1938.
15. *Variability of Circulation Time in Normal and in Schizophrenic Subjects.* H. Freeman. Arch. Neurol. & Psychiat. 39: 488, March, 1938.
16. *The Rorschach Test as Applied to Normal and Schizophrenic Subjects.* Maria Rickers-Ovsiankina. Brit. J. M. Psychol. 17: 227, March, 1938.
17. *Imagery and Its Relations to Schizophrenic Symptoms.* Louis H. Cohen. J. Ment. Sc. 84: 284, March, 1938.
18. *Electroencephalograms in Schizophrenia.* (Abstract only.) Hudson Hoagland. J. Nerv. & Ment. Dis. 87: 337, March, 1938.
19. *Electrical Brain Waves in Relation to Insulin Treatment of Schizophrenics.* Hudson Hoagland, D. Ewen Cameron, and Morton A. Rubin. M. Rec. 147: 293, April, 1938.
20. *The Effect of Age on the Stanford-Binet Vocabulary Score of Adults.* David Shakow and Rosaline Goldman. J. Educ. Psychol. 29: 241, April, 1938.
21. *Metabolic, Cardiovascular, and Biochemical Changes Associated with Experimentally Induced Hyperthyroidism in Schizophrenia.* Louis H. Cohen and J. H. Fierman. Endocrinology 22: 548, May, 1938.
22. *An Internship Year for Psychologists (With Special Reference to Psychiatric Hospitals).* David Shakow. J. Consult. Psychol. 2: 73, May, 1938.
23. *Changes in Blood Lipids during Insulin Treatment of Schizophrenia.* Lowell O. Randall, D. Ewen Cameron, and Joseph M. Looney. Am. J. M. Sc. 195: 802, June, 1938.
24. *Skin and Body Temperatures of Normal Individuals under Cold Conditions.* H. Freeman and R. F. Nickerson. J. Nutrition 15: 597, June, 1938.
25. *Observations on the Convulsant Treatment of Schizophrenia with Metrazol.* Louis H. Cohen. New England J. Med. 218: 1002, June, 1938.
26. *An Initial Depression of Heart Rate in Response to Epinephrine in Human Subjects.* Robert T. Fuchs. J. Pharmacol. & Exper. Therap. 63: 143, June, 1938.
27. *The Distribution of the Alpha Rhythm over the Cerebral Cortex of Normal Man.* Morton A. Rubin. J. Neurophysiol. 1: 313, July, 1938.
28. *Chemical Topography of the Brain.* Lowell O. Randall. J. Biol. Chem. 124: 481, July, 1938.
29. *Loss of Temporal Localization as a Manifestation of Disturbed Self-Awareness.* Louis H. Cohen and Gregory N. Rochlin. Am. J. Psychiat. 95: 87-95, July, 1938.
30. *A short Note on a Child's Drawing.* William H. Stavsky. Am. J. Orthopsychiat. 8: 560-561, July, 1938.
31. *The Transition from Intuitional to Social Adjustment.* Elizabeth Anne Proehl. Am. Sociological Rev. 3: 534, August, 1938.
32. *The Concept of Bionegativity.* Andras Angyal. Psychiatry, 1: 303, August, 1938.
33. *The Early Effects of Metrazol Therapy in Chronic Psychotic Over-Activity.* Louis H. Cohen. Am. J. Psychiat. 95: 327, September, 1938.
34. *A Note on the Method for Finding Variance Formulae.* Robert Dorfman. Biometric Bull. 1: 129, September, 1938.
35. *Analysis of the Effects of High Humidity on Skin Temperature.* B. A. Lengyel and H. Freeman. Biometric Bull. 1: 139, September, 1938.
36. *A Variability Study of the Normal and Schizophrenic Occipital Alpha Rhythm: I.* Morton A. Rubin. J. Psychol. 6: 325, October, 1938.
37. *Emotion in Man as Tested by the Delta Index of the Electro-Encephalogram: I.* Hudson Hoagland, D. Ewen Cameron, and Morton A. Rubin. J. Gen. Psychol. 19: 227, October, 1938.
38. *Emotion in Man as Tested by the Delta Index of the Electro-Encephalogram: II.* Simultaneous Records from Cortex and from a Region near the Hypothalamus. Hudson Hoagland, D. Ewen Cameron, Morton A. Rubin, and Julius J. Tegelberg. J. Gen. Psychol. 19: 247, October, 1938.

39. *A Basis for the Improvement of Personality Tests with Special Reference to the M-F Battery.* Saul Rosenzweig. *J. Abnorm. & Social Psychol.* 33: 476, October, 1938.

40. *Explorations in Personality—Experimental Studies of Repression (Chapt. XVIII). Experimental Measurement of Types of Reaction to Frustration (Chapt. XXIV).* Saul Rosenzweig. (Book edited by Henry A. Murray). Published by Harvard Psychological Clinic. 1938.

41. *Physiochemical Properties of Brain, Especially in Senile Dementia and Cerebral Edema: Differential Ratio of Skull Capacity to Volume, Specific Weight, Water Content, Water-Binding Capacity and pH of the Brain.* Leo Alexander and Joseph M. Looney. *Arch. Neurol. & Psychiat.* 40: 877, November, 1938.

42. *The Electroencephalogram in Bromide Intoxication.* Mortan A. Rubin and Louis H. Cohen. *Arch. Neurol. & Psychiat.* 40: 922, November, 1938.

43. *The Influence of Cyanide on Brain Potentials in Man.* Morton A. Rubin and Harry Freeman. *J. Neurophysiol.* 1: 527, November, 1938.

44. *Early Schizophrenia.* D. Ewen Cameron. *Am. J. Psychiatry* 95: 567, November, 1938.

45. *A Dynamic Interpretation of Psychotherapy Oriented Towards Research.* Saul Rosenzweig. *Psychiatry* 1: 521, November, 1938.

MEDICAL AND SURGICAL SERVICE

Embrie J. Borkovic, M.D., Director

The following report summarizes briefly the activities of the medical and surgical service for the fiscal year of 1938.

(1) *Movement of population on service:*

There were 1,229 cases admitted to the service the past year. This is an increase of 137 cases over the figures of last year and 264 over figures for the fiscal year of 1936. One hundred and twenty-five cases were admitted for study only. The largest number of cases were admitted during the months of Dec., Jan., Feb., March, May and August. 485 males and 465 females were discharged. Discharges from the services detailed as to physical condition are shown in following tables.

Table I

	Male	Female	Total
Recovered and improved	405	410	815
Not improved	14	8	22
Not treated	34	31	65

The figures in the *not treated* group have increased due to the fact that many were scarlet fever suspects or "post-encephalogram" study cases observed on the medical service. During the year there was an outbreak of scarlet fever which assumed the proportions of a mild epidemic. Twelve patients and twelve employees contracted the disease. There were no deaths or serious complications. The epidemic began in January and continued through the month of May at which time the peak was reached.

(2) *Deaths:*

During the fiscal year 222 patients died as compared with 268 the preceeding fiscal year. The following table gives the details of the deaths and autopsies.

Table II

	Male	Female	Total
Total number of deaths	121	101	222
Total number of autopsies	78	56	134
Total number of medical legal cases	17	11	28
Autopsy percentage of deaths this year was 60.3 per cent, an increase of 11.4 per cent over last years figure. A total of 134 autopsies were performed, the same number as last year. Three patients died at Summer Street Department. Since the policy regarding the infirmary has changed there have been no deaths at the S.S.D. All physically ill patients who were expected to be sick more than 24 hours were transferred to the main hospital (that is where it was believed the patient would remain in bed more than 24 hours).			

Pathological Material—Autopsy Data

<i>Clinical Diagnosis</i>		<i>Causes of Death</i>
Traumatic psychosis	.	1 Primary multiple carcinomata of Aesophagus with metastasis.
Encephalitis lethargica	.	1 Primary cyst adenoma of pituitary with hemorrhage.
Friedreich's ataxia	.	1 Friedreich's ataxia-bacteremia.
Meningitis	.	1 Acute pneumococcic meningitis.
Huntington's chorea	.	1 Huntington's chorea-broncho-pneumonia.
Chronic alcoholic hallucinosis	.	1 Subdural and intra-ileum hemorrhage.
Alcoholic pseudoparanoia	.	1 Carcinoma of lung and spine.
Reactive depression	.	1 Mycosis fungoides. Chronic nephritis.
Psychoneurosis—anxiety state	.	1 Fractured pelvis—associated with internal hemorrhages—(Suicide).
Dementia praecox	.	3 Bilateral pulmonary tuberculosis.
Dementia praecox paranoid	.	2 Carcinomatosis—cancer of stomach—cerebellum, dural endothelioma.
Dementia praecox	.	1 Asphyxiation (Suicide).
Dementia praecox	.	1 Diabetes.
Dementia praecox	.	1 Duodenal ulcer with obstruction.
General paresis	.	1 Dural endothelioma of brain.
Paranoid condition	.	1 Primary carcinoma of gall bladder with metastasis.
Paranoid condition	.	1 Primary adeno carcinoma of colon.
Involutional melancholia	.	1 Chronic duodenal ulcer with obstruction.
Manic Depressive—depressed	.	1 Suicide by asphyxiation.
Senile and cerebral arteriosclerosis	69	

The above table is an indication of the variety of concomitant organic pathology among the psychotic population. As usual, the paranoid group had a preponderance of neoplastic lesions. There were 3 deaths by asphyxiation.

Clinico Pathological Conferences:

I.	General paresis	Dural endothelioma
II.	Korsakoff's psychosis	Peupheral polyneuritis pellagra
III.	C.N.S. syphilis	Undiagnosed ruptured gastric ulcer
IV.	Essential hypertension	Benign nephrosclerosis
V.	Alcoholic pseudo paranoia	Intradural and intra-ileum hemorrhages
VI.	Manic depressive, depressed	Scurvy
VII.	Manic depressive, manic	Ruptured kidney with hemorrhages (unrecognized)
VIII.	Manic depressive, manic	Subdural hematoma

The above is a description of the type of case discussed monthly. At these meetings the internes were given the opportunity to present the clinical material and a member of the Senior Staff was chosen to discuss the case. This was followed by the presentation of the pathological data. Many unrecognized conditions were thus brought to the attention of the entire staff. Records of these conferences have been bound and are kept in the medical library.

A survey of the deaths reveal that the largest number of deaths, 73, resulted from senile changes. This is 32.88 per cent of the total deaths, and over half the autopsies were performed on this group. There were 13 lobar pneumonia and 51 broncho-pneumonia, a total of 64 pneumonias. The total percentage for the two combined is 28.8 per cent. Eleven or 4.95 per cent died as a result of Tuberculosis. Fifteen or 6.75 per cent died as a result of dementia paralytica. Eleven or 4.95 per cent died as a result of cancer. Three or 1.3 per cent patients died as a result of fractures. Eleven or 4.95 per cent of patients died as a result of Pyelonephritis and nephritis. Thirty-four or 15.3 per cent patients died from miscellaneous causes. Four of these were associated with diabetes mellitus.

Table III

Consultations:

Eye	88	Medical	6
Ear, nose and throat	16	Orthopedics	10
Gynecology and obstetrics	32	Genito-urinary	9
Pondville Cancer Hospital	19	Electro cardiograms	1
General Surgery	104	Encephalograms	10
Neurology	13		

Obstetrics:

The number of deliveries increased from 4 last year to 10. There were no premature births and no infant mortality.

Table IV

Report — Dec. 1, 1937 to Nov. 30, 1938

Major Surgical Procedures:

Amputation of breast	2
Appendectomy	7
Application of body cast	4
Cholecystectomy	1
Colostomy	1
Craneotomy	4
Cystotomy	1
Deliveries	10
Discission of eyes	2
Gastrostomy	1
Hip Nailing	3
Herniorrhaphy	11
Hydrocele	1
Hysterectomy	5
Ligation and injection of saphenous veins	11
Nephrectomy pelvotomy	1
Open reduction of fracture (Clavicle-olecranon)	2
Pyelotomy	1
Rectopexy	1
Transection of stomach	1
Thyroidectomy	2
Total	72

Minor Surgical Procedures:

Adenoideectomy	2
Artificial pneumothorax	77
Aspirations (knee-5) (neck-1)	6
Application of plaster cast	24
Biopsies	7
Blood transfusions	8
Chest aspirations	37
Circumcision	6
Curetage (Bone of heel)	2
Coagulation of cervic	3
Cystoscopic exams.	4
Dilatation and curetage	2
Encephalographies	45
Esophagoscopy	1
Electrodessication	3
Fulgeration of caruncle	3
Hemorrhoidectomy	1
Incision and drainage	213
Injection of varicose veins	226
Manipulation of leg under anesthesia	1
Mycingotomy	1
Perineorrhaphy	5
Phlebotomy	2

Partial turbinectomy	1
Passage of urethral sounds	1
Removal of — (Cervical polyp-1) (strip out pillar-1) (needle from back-1) (foreign body in spine-1) (wens-3) (finger and toe nails-4) (small tumor in mouth-1)	12
Reductions of dislocations	7
Rib resection	1
Sigmoidoscopics	5
Spinal manometrics	441
Suturing of lacerations	142
Teeth extractions under anesthesia	7
Tonsillectomy	8
Varicocele Tap	2
Valpeau bandage to fractures of clavicle	2
Vena puncture	1
Total	1,309

The major and minor operations are listed separately. A very definite increase in the number of both major and minor operations over last year have taken place. This year there were 72 major operations, compared to 41 in 1937, and 1,325 minor procedures as compared to 454 the last fiscal year.

The increase in the number of minor operations was due in part to the increase in number of spinal manometric readings, the injection of varicose veins and of the use of artificial pneumothorax. The out patient dressing room has been moved from Howe two ward building to the operating suite for two reasons—(a) the present room is larger and (b) the central location is more convenient to surgical room supplies in time of emergency.

A clinic was established for the treatment of hernia, varicose veins and hemorrhoids. New patients are examined routinely and old patients at opportune intervals. Elective repair of chronic ailments undoubtedly adds something to the patient's sense of well-being.

All intravenous solutions are now being made and sterilized at the hospital. This eliminates the purchase of intravenous solutions and results in a substantial saving of money.

The service has requested a "peritoneoscope" to facilitate intra abdominal diagnosis. When a laparotomy is indicated, there often is considerable risk to the patient. The peritoneoscopic examination minimized this risk in many cases by permitting the insertion of the scope through a puncture opening for purposes of diagnosis.

We would also like to own a cystoscope. There is adequate need for this instrument.

The hospital should have some sort of an efficient mechanical resuscitator to be used in case of emergencies during surgical operations, following asphyxiation (after suspension, drowning, or any other cause).

Table V
Report—Dec. 1, 1937 to Nov. 30, 1938

Clinics Detailed:

Eye examinations	663
Ear, nose and throat examinations	540
Gynecological examinations	604
Luetic treatments	9,445
Small-pox vaccinations	533
Lumbar punctures	498
Typhoid and para-typhoid inoculations	1,904
Hinton tests	1,171
Others	96
Hernia, hemorrhoid and varicose veins exams.	249
Total	15,703

There has been no particular change in these figures over last year.

Table VI

Dressings detailed:

Abrasions and lacerations	3,093
Boils and carbuncles	972
Burns	1,211
Infections	3,858
Ulcerations	2,493
Others	2,192
Unna boots	160
Total	13,979
Total clinic dressings	13,819
Total ward dressings	23,605
Grand total dressings	37,424

Table VII

Employees:

1980 employees were examined. This number is less than in the previous report because of the typhoid inoculations and small pox vaccinations done last year.	
Employees examined at clinic	1,980
Employees required hospitalization	male 65 female 83 148
Employees required operation	male 26 female 23 49
Total number of days on sick ward	male 531 female 570 1,101
Farmers and milk handlers physical exam. and throat cultures	employees 55 patients 68

Table VIII

Dental Report—1938: Main Hospital:

Fractures immobilized	5
Bridges	0
Cleanings	1,852
Examinations	4,837
Extractions	1,847
Fillings	1,292
Microscopic examination	5
Plates	31
Repairs	34
Treatments	4,078
X-Ray diagnosis	564
Others	0
Total examinations and treatments	15,345
Total patients examined and treated	4,837
Total general anesthetic cases	6
Plates numbered	217
Alveolectomy	3
Sutures	10
X-rays taken	564

Summer Street Department:

Bridges	0
Cleanings	199
Examinations	706
Extractions	422
Fillings	79
Microscopic exam.	0
Plates	1
Repairs	10
Treatments	605
X-Ray diagnosis	35

Others	0
Total examinations and treatments	1,894
Total patients examined and treated	706
General anesthetic cases	0
X-rays taken	35

Table IX

X-Ray Department Analysis:

Patients examined	2,224
X-Ray plates used	4,136
Foot plates used	22
Foot and fingerprints	71
Photographs	322
Prints	66
Lantern slides	

Total 6,841

The department did more work than during the preceeding year.

Work will be greatly facilitated after the new X-ray equipment now provided for is installed. Particular difficulty is encountered at present with the old machine, as precise fleuroscopic detail is impossible to obtain.

Physical Therapy Analysis:

Table X

A.C. ultra violet	2,286	Medical diathermy	514
W.C. ultra violet	123	Muscle re-education	856
Baking	2,729	Others	325
Mass	1,572		
Total treatments and tests			8,405
Total patients treated			1,943

The physio therapy department remains very active. The work of this department requires one or two new short wave penetrating heat units. The present machines are of obsolete long wave type. There is a constant heavy demand for fever therapy of paresis and allied conditions. The present equipment must shortly be replaced in order to maintain the efficiency necessary to treatments. Care must be exercised in applying electrodes of the long wave type especially over bony irregular surfaces. This detracts considerably from the applicability of the units in the treatment of joint conditions.

LABORATORY REPORT FOR THE YEAR FROM OCTOBER 1, 1937 TO SEPT. 30, 1938

Basal metabolisms	367	Urine pH	37
Blood bromide	91	Tissue vitamin 'C'	192
Blood calcium	477	Tissue respiration studies	85
Blood chloride	24	Urine Bence-Jones protein	5
Blood cholesterol	1,265	Blood sp. gravity	6
Blood albumin	3	Animal inoculations	2,091
Blood cholesterol free	1,216	Ascetic fluid	44
Blood choline esterase	1,369	Bacterial cultures	764
Blood creatinine	658	Blood cultures	89
Blood gases	809	Feces pus	1
Blood globulin	3	Feces bile	14
Blood glutathione	1,420	Feces occult blood	196
Blood lactic acid	1,173	Feces ova and parasites	63
Blood lipoids	1,216	Milk bacterial count	304
Blood N. P. N.	2,211	Milk occult blood	630
Blood phosphorus	491	Milk pathogenic bacteria	56
Blood potassium	442	Bacterial smears	923
Blood phosphotase	6	Sputum T. B.	532
Blood pH	87	Neufeld typing	474
Blood sodium	4	Vaccines	9
Blood sugar	3,298	Bleeding time	31
Blood total protein	5	Clotting time	31
Blood urea	643	Blood count differential	3,673
Blood uric acid	379	Blood count erythrocytes	3,671

Blood vitamin 'C'	1,020	Blood count hemoglobins	4,023
Galactose tolerance	1	Blood count leucocytes	3,706
Gastric analysis free HCL	140	Blood count platelets	6
Gastric analysis comb. HCL	140	Blood count reticulocytes	88
Gastric analysis total HCL	140	Blood schillingrams	14
Gastric analysis organic ac.	138	Blood fragility	8
Gastric analysis blood	140	Blood hematocrit	1,179
Gastric analysis bile	137	Blood sedimentation	115
Gastric analysis bacteria	25	Blood typing	85
Gastric analysis bromide	3	Icteric index	46
Glucose tolerance	69	Plasmodia malaria	51
Spinal fluid cells	932	Vanden Bergh	30
Spinal fluid chlorides	572	Agglutination tests	12
Spinal fluid gold curve	745	Undulant fever tests	6
Spinal fluid globulin	728	Blood widals	7
Spinal fluid protein	1,071	Feces Dysentery	4
Spinal fluid sugar	751	Feces typhoid and para typhoid	17
Spinal fluid total N	14	Feces T. B.	5
Spinal fluid N. P. N.	14	Feces fat	2
Spinal fluid bromide	2	Darkfield examination	1
Toxicological examination	1	Semen examinations	4
Urine routine	8,799	Urine typhoid and para typhoid	9
Urine chloride	1	Water B. coli	1
Urine Mosenthal test	3	Androgenic studies	76
Urine nitrogen partition	158	Bio-assay of sex hormone	194
Urine renal function	10	Pregnadiol determinations	36
Urine qualitative sugar	141	Adrenal gland extracts	72
Urine bile	12	Tissue sections routine	602
Urine quantitative sugar	4	Tissue sections research	650
Urine bromide	1	Tissue sections serial	83
Urine diacetic acid	3	Endocrine hormone assays	557
Urine blood	6	Autopsies	127
Grand Total			62,356

LABORATORY REPORT

Joseph M. Looney, M.D., Director

The number of examinations carried out by the laboratory during the past year showed a marked increase to an all time high of 62,229 as given in detail in the accompanying table.

The laboratory has been approved by the Council on Medical Education and Hospitals of the A.M.A. for the training of interns in pathology. This should be very helpful in keeping these positions filled in the future.

The training of well qualified college graduates as technicians has continued with the approval of Registry of Clinical Pathologists and the A.M.A. Two girls were given certificates and have found employment, and their places have been taken by two other students.

The main research work of the laboratory has been centered on the physiological changes occurring during insulin and metrazol therapy. In addition a study is under way as to the effect of diathermy treatment on brain metabolism. A study of the relationship between fever and vitamin C and glutathione levels of the blood has been completed and is now being prepared for publication. Further studies on hormones have been carried on by the help of two technicians who are being supported by the Armour Fund. The increase in hormone investigations are indicated by the various items at the bottom of the table. Further progress on the utilization of tissue respiration experiments by means of the Worburg apparatus has been made and future developments should yield valuable information as to abnormal oxidative processes in schizophrenics.

The following papers were published:

1. *The effect of exercise on the blood gases, pH and lactic acid content of the blood of normal and schizophrenic subjects.* J. Biol. Chem. 123: lxxvi. 1938.

2. *Physico-chemical properties of brain especially in senile dementia and cerebral edema.* Arch. Neurol. & Psychiat. 40: 877. 1938.
3. *Changes in Lipid Composition of Nerves from Arteriosclerotic and Diabetic Subjects.* J. Biol. Chem. 125: 723. 1938.

In press:

1. *Changes in lactic acid, pH, and gases produced in the blood of normal and schizophrenic subjects by exercise.* Am. J. Med. Science. J. M. Looney.
2. *Histopathology of senile dementia and related conditions.* Arch. Neurol. & Psychiat. J. M. Looney and L. Alexander.
3. *Tyrosine determination.* Science. J. M. Looney.
4. *The determination of spinal fluid protein with the photoelectric colorimeter.* J. Biol. Chem. Jan. 1939. J. M. Looney and A. J. Walsh.
5. *The determination of serum phosphatase and its clinical significance.* New England J. Med. J. M. Looney.

The director and Dr. Randall attended the annual meeting of the Federation of American Societies for Experimental Biology March 30 to April 2, 1938 at Baltimore. He also attended monthly meetings of the Northeastern Section of the American Chemical Society, the Boston Society of Biologists, and regular meetings of the Harvard Chapter of Sigma X.

Dr. Freeman attended the annual meetings of the American Association of Pathologists and Bacteriologists in Atlantic City in June and the American College of Physicians at New York in April. He also attended the regular meetings of the New England Pathological Society. Both Dr. Freeman and the director attended the annual meeting of the Mass. Medical Society in June.

The following meetings were addressed by members of the staff:

1. *Endocrine aspects of personality.* Presented before the student body of Holy Cross College, April, 1938. J. M. Looney.
2. *The Physicians view of Russia.* Worcester Rotary Club, May, 1938.
3. *Determination of phosphatase and its clinical significance.* Worcester Medical Society, October 12, 1938. J. M. Looney.
4. *The endocrine aspects of dentistry.* The Worcester County Dental Hygienists and Assistants. J. M. Looney.
5. *Further studies on central necrosis of the adrenal glands.* New England Pathological Society, April 21, 1938. W. Freeman.
6. *How postmortem examinations help me.* Webster Rotary Club, September 12, 1938. W. Freeman.
7. *Some thoughts on old medicine and new medicine.* Worcester District, Massachusetts Nursing Association. W. Freeman.
8. *The chemical topography of the brain.* Federation of American Societies for Experimental Biology. L. O. Randall.

WORCESTER CHILD GUIDANCE CLINIC

Ruth Walton, Head Social Worker

One cannot think of a Child Guidance Clinic without its relationship to the community as a whole. The function of such a clinic includes a number of services, available for the use of the home, the school, and the social agency within the community in helping to adjust behavior and personality problems indicative of conflict within the individual himself or with his environment. The statistical report shows that 529 children received some types of service from the clinic during the year. Obviously this many children could not receive intensive service over a long period of time, nor is such service frequently desired. We cannot think of the child as an isolated unit any more than we can think of the Clinic in this way. We think of the child in the sense of a total personality affected by the various factors in his environment. For this reason, a diagnostic or consultation service given to a school, an agency or a parent does not end there, but is part of a treatment process which is continued for the child, although it may not be within the Clinic.

A Child Guidance Clinic because of its psychological and psychiatric facilities, is able to offer a unique service in helping with problems of individual maladjustment. There are many children who present difficulties of such an intrinsic nature, that a more adequate adjustment can be reached only by changes brought about within himself. This necessitates intensive therapy for a period of time, the length depending upon the nature

of the problem, the desire and the capacity of the child and the parent to use the therapy offered by the Clinic. It is seldom that intensive therapy with the child, or with the parent alone, creates the most helpful results. A treatment plan which includes both the child and the parent, as well as the school, or other agencies as in a co-operative case, affords a better opportunity for progress in the total situation depending, of course, upon individual differences. Of the 214 new cases accepted during the past year, eighty-five cases were carried intensively, and it will be noted that fifteen of these were co-operative cases. This seems a large enough number to indicate a growing awareness on the part of social agencies of personality difficulties which can be treated at a Child Guidance Clinic. Intensive therapy may mean, a child and a parent are seen regularly at the Clinic for one, two or three therapeutic hours a week, for a period of six months or a year or longer, again depending upon the nature of the problem.

The value of speeches in the community, as a part of an educational program, has been questioned. This year twenty-one talks were made in the community upon the request of various clubs, schools, and social agencies, and a number were refused because of lack of time available. It seems evident that the community still feels the need of education by this means.

Although there have been changes in our staff members and we have had a reduced staff at various times during the year, we have continued with our usual clinic activities both in the community and within the clinic itself. The demonstration clinic in connection with the Webster schools, begun in January, 1937, was continued. Some of the cases studied during the first year and still in need of treatment were carried throughout the year, and a few emergent new situations were dealt with. The chief work of 1938, however, was a study of twenty-five children of average intelligence, or above, in the early grades, who were markedly retarded in reading. This was a problem which concerned the school system, and it was hoped that out of this study might come some common observations which might be related to the general problem of difficulty in reading. The schools gave careful reports on these children as they saw them, and tested ears and eyes, while the clinic secured social background, gave tests for dominance and diagnostic reading tests and examined the children psychiatrically. The Director made a general report on the results of the study to all of the teachers in the school system. The social workers saw the various parents again to give them specific suggestions for use with their own children. And the teachers of the twenty-five non-readers were given reports and recommendations for the individual children, culled from the findings of the psychiatrist, the psychologist, and the social worker. It is our opinion that one of the most valuable by-products of this study has been the absolving of the teacher of blame for all of her reading failures, with the result that she has attacked the problem with added energy.

This has been the third year that our social worker, Miss Burnell, has been doing some work in connection with the Worcester Girls' Club in an effort to learn how the clinic might best be of service to such a recreational agency. At first children who were already disciplinary problems were interviewed, but this was given up as the children regarded her as just another disciplinarian. Then, at the request of the club, the parents of these children were visited and attempts made to have the parents make use of the Child Guidance Clinic. These, too, were unsuccessful. It was decided that the Clinic's service probably lay more in the educational and preventive field, and the work during 1938 has been in this area. The social worker met with the Club leaders for a series of lectures and discussions having to do with psychology and behavior. The leaders have found these helpful in their dealings with the girls, and the Club Director has asked that they be continued in 1939. In connection with another course being given at the Club, there were discussions with adolescents on the bases of behavior. These are to be continued in 1939 as electives in the Club program, under the name of "Personality Clubs."

Psychology Department

There has been no change in the routine of psychometric examinations. During this year 180 children were examined by a psychologist in this Clinic. In practically all cases a "general intelligence" scale was utilized and in a great many cases special tests, educational achievement scales with stress on reading ability, aptitude tests, and scales for the measurement of personality.

In the clinic in Webster, Massachusetts, 26 children were examined by a psychologist. Of these 25 were given a reading test as part of a research project.

Psycho-therapy is also a part of the work of this department. Intensive treatment was carried on with 34 children. Of these, 13 children were seen individually by Mrs. Whitman, 10 by Dr. Stavsky, and 11 children were treated in the "play group".

Research has been carried on mainly to determine the value of "group therapy" with young children. For one morning a week a small group (not over 6 children) are organized much as a nursery school group except that the first hour and a half is given over to free play. This play which is supervised by the psychologist is considered to have a two-fold purpose. It serves not only as a medium for the expression of his conflicts but the group may serve either as a check on his activity or may serve as a means for fuller expression of his difficulties.

Careful records of their activities through a one-way screen and of their conversation by means of a recently installed amplifier makes possible fairly accurate estimations of outstanding behavior variables. These ratings are to be evaluated in relation to the problems which they present, and we may then be able to determine to what extent such a method of treatment is useful or at least determine its limitation.

Our research program has become a particularly important factor during the past year not only in our study and analysis of therapeutic techniques but also in further study of the type of personality and of the problem which responds to clinic treatment. This has included a study of the personality traits of a group of 25 adolescents, who broke treatment of their own volition, and of 27 mothers with personality traits of a dominating and aggressive nature. The mothers were treated simultaneously with the treatment of the child, and with only partial success. Emphasis was also laid upon the treatment of a particular problem in another study, including the analysis of the present adjustment of 36 children who were treated for speech defects. More than two-thirds of these children showed improvement. A study of the source of referral in 45 cases seen at the Clinic during the year 1937-1938 revealed that although the source may or may not have been of an authoritative nature, the real outcome of the case depended upon the parents' desire for, and acceptance of treatment.

In August the staff members started to organize a follow-up study of 300 children who had formerly been treated at the clinic to determine their present adjustment and the value of clinic treatment in this adjustment. There has already been a great deal of progress made in this study under the supervision of Dr. Shakow of the Worcester State Hospital.

The training program has continued with three social work students and one psychological student. Miss Frances Jenney and Miss Betty Baum from the Smith School of Social Work, and Miss Mary Walker, of the Simmons School, joined the staff in September. Miss Mildred Henrich from the Bryn Mawr School joined the psychological department as a student in October.

The Clinic has felt keenly the loss of various staff members during the past year. Dr. Paul Jordan resigned in March to take a position in the psychiatric division of the Medical School of the University of Michigan. He was replaced by Dr. William Holt, of the Worcester State Hospital, in September, and the latter returned to a position on the Hospital staff in November. Dr. Stavsky of the psychology department left the Clinic in October to take a position as psychologist with the new Children's Center in Wilkes-Barre, Pennsylvania. He has not yet been replaced. Dr. Kirkpatrick resigned as Director of the Clinic in November, 1938, to take a position in Lansing, Michigan, as organizer of new child guidance clinics in connection with the Couzen's Fund. The members of the staff are appreciative of Dr. Kirkpatrick's leadership at the Clinic, and sincerely regret his leaving. We have been ably assisted by Dr. Cobliner since October, 1938. She has been kindly loaned to us from the Worcester State Hospital staff. We have been able to carry on our usual Clinic program only through the valuable interest and assistance of Dr. Bryan, while awaiting the appointment of a new director.

Annual Service Report

I. Report of Case Load:

A. Carried Cases:

Carried Cases:						Total
1. Cases carried over from last year						315
2. Intake a. New Cases Accepted						192
b. Old Cases reopened						
(1) last closed before present year						21
(2) last closed within present year						1

3. Total cases open at sometime in this year	529
4. Cases taken from service	293
5. Cases carried forward to next year	236
B. Closed cases followed up (Not reopened)	48
C. Applications rejected	12
D. Applications withdrawn	16

II. Type of Service Classification

A. New Accepted Cases:			
6. Full service a. Clinic staff cases (7 reopened)	70		
b. Cooperative cases (3 reopened)	15		
c. Full service not a or b	0		
7. Special and Diagnostic service (Advice) (12 reopened)	129		
8. Total new cases accepted	214		
B. Cases taken from Service:			
10. Full service a. Clinic staff cases	121		
b. Cooperate cases	44		
11. Special service (advice)	128		
12. Total cases closed during this year	293		

III. Sources Referring New Accepted Cases:

	Full	Special	Total
13. Agencies a. Social	11	17	28
b. Medical	1	3	4
14. Schools a. Public	9	24	33
b. Other (tutor)	1	—	1
15. Juvenile Court	—	56	56
16. Private physicians	1	3	4
17. Parents, relatives	57	26	83
18. Others (Church, friend,) (Pres. of C. G. Assoc.)	5	—	5
	—	—	—
19. Total new cases accepted	85	129	214

IV. Summary of Work With or About Patients:

A. By Psychiatrists:		Total
1. Interviews with patients a. for examination	173	
b. for treatment	571	
2. Interviews about patients	103	
3. Physical examinations by clinic staff members	33	
B. By Psychologists:		
1. Interviews with patients a. for examination	169	
b. for re-examination	14	
c. for treatment	861	
2. Interviews about patients	17	
C. By Social Workers:		
1. Interviews in clinic	991	
2. Interviews outside clinic	397	
3. Telephone calls	709	
D. Number of Cases Given Initial Staff Conference:		
1. Full service a. Clinic staff cases	53	
b. Cooperative cases	14	
2. Special service	18	
E. Number of open cases given service during year by workers	2,109	
F. Referral Interviews	145	

V. Personnel Report (Average staff during year):

	Full-time	Part-time
A. Regular Staff a. Psychiatrists	2	
b. Psychologists	2	
c. Social Workers	3	
d. Clerical workers	2	
B. Staff in Training a. Social workers	4	(3 beginning 9-1-38)
b. Psychologist	1	(Beginning 9-38)

VI. *Operating Schedule:*

- A. Schedule of clinic days and hours: 9 to 5 daily; 9 to 12 Saturday.
- B. Schedule of attendance of psychiatrists: 9 to 5 daily; 9 to 12 Saturday.

*Educational Services:**Month and Staff Member*

January: Walton, Y.M.C.A.; A.A.S.W.
February: Whitman, Jewish Council of Women; Y.W.C.A. Parents Education.
February: Burnell, Girls' Club Leaders.
February: Kirkpatrick, Unitarian Church; Committee on Delinquency; Y.M.C.A. Parents Education.
February: Walton, Whitman, Kirkpatrick, State Teachers College.
March: Burnell, Chaffin Parent-Teacher Assoc.; Girls' Club Leaders.
April: Walton, Y.W.C.A.
April and May: Burnell, Girls' Club Leaders; Girls' Club (Assistant Leaders); Girls' Club Leaders.
November: Whitman, National Jewish Council.
November: Burnell, Girls' Club Group; Women's Union, Baptist Church.

THE MENTAL HEALTH CLINIC*James Watson, M.D., Director*

The "Mental Health Clinic" was organized during the month of January, 1938. It is an outgrowth of the desire to link the State Hospital more closely with the community and to make the Hospital truly the center for Mental Hygiene activities in the community. Before making this step, the psychiatrists in private practice in the city were interviewed. They were unanimous in stating the need for a clinic and gave their encouragement toward its organization. Valuable hints as to procedure were obtained from them. Next the heads of the welfare agencies in the city were interviewed and they were found enthusiastic in their welcome to the idea and in their offers of cooperation. For years they had felt the need of psychiatric advice and assistance in welfare work.

The clinic was opened as a cooperative enterprise of the State Hospital and the Board of Public Welfare. Dr. J. Watson, who had been assigned to the Family Care department of the W.S.H., was to give part of his time to the work of the clinic and the Welfare Board agreed to furnish office space, the stenographic and social service assistance, janitor, etc. This agreement has worked out satisfactorily. It now appears that through this cooperation the Mental Health Clinic is a permanent asset of the community and the opinion prevails that in the near future steps should be taken to enlarge its personnel and equipment that it may more adequately meet the demands made upon it. The first advance should be a full-time psychiatrist, a part-time psychologist, a part-time psychiatric social worker, and a full-time stenographer. Later, plans should be made for a complete unit as recommended by the National Committee for Mental Hygiene such as now functions so adequately in the Child Guidance Clinic.

The types of problems referred to the clinic are quite varied. Many patients are afflicted with some type of Psychoneurosis (Phobias, Hysteria, Compulsions, Hypochondriasis, Anxiety states, Obsessions, etc.) Others have mild forms of the Psychoses. Naturally once in a while an individual who is frankly psychotic is brought in. Among the problems are many cases of family disharmony, mental abilities, and behavior difficulties of adolescents.

Among the Referring Agencies are: Board of Public Welfare; Associated Charities; Children's Friend Society; Girls' Welfare Home; Swedish Charities; Worcester Boys' Club; Society for Prevention of Cruelty to Children; Child Guidance Clinic; Physicians and Clergymen. Only referred patients are taken.

Four types of appointments are made. (1) Evaluation interviews of one hour each in which an attempt is made to learn the patient's problem and to decide whether the clinic can be of assistance to him. (2) Therapeutic hours for planned psychotherapy. (3) Advisory consultations given to social case workers, who wish to consult with a psychiatrist relative to problems arising in their work. (4) Out patient follow up of patients on visit from the Worcester State Hospital form a part of this group. Occasionally adolescent boys and girls who have been in difficulties, and have been helped are allowed, upon request of the referring agencies, to come in for a few minutes once a month to report how they are getting along. In this way supervision is maintained. When new difficulties are detected they are assigned to the next available therapeutic hour.

The director of the clinic endeavors to keep in close contact with the referring agencies and to understand their needs. Reports are sent frequently and when a case is closed a complete statement is sent in with such constructive suggestions as are available. A course of twenty lectures in "Clinical Psychiatry" was given last spring to the social case workers of the city. This fall a class in "The Psychology of Personality" is being conducted. The facilities of the State Hospital, particularly the Social Service, the Nursing, and the Psychology Departments have been very cooperative. The general hospitals of the city have cooperated fully. All the referring agencies have appreciated the service.

Statistics for the complete fiscal year are of course not available, but the figures for the last three months of the fiscal year may be taken as fairly representative. However, the load thus indicated has been found too heavy for the present personnel in that it does not allow sufficient time for the completing of records and the adequate study of anamnestic material.

Summary of Monthly Reports of September, October and November:

Clinic consultations	120	Total patients	70
Advisory consultations	55	Referring agencies	10
New patients	37	Lectures and addresses given	22

REPORT OF THE PSYCHOLOGY DEPARTMENT

David Shakow, M.A., Chief Psychologist

During the year the number of patients with whom the department had contact was as follows:

Psychometric and Experimental Studies:

<i>House</i>	<i>Individuals Examined</i>	<i>Number of Tests Given</i>
House Patients	180	614
Schizophrenic Research Patients	216	851
<i>Out-Patient</i>		
School Clinic	429	478
Adult Delinquents	13	33
Non-Patients (Employees, etc.)	236	591
	1,074	2,567

These figures include, as far as the psychometrics are concerned, work done with over fifty different tests. The experimental studies refer to a variety of projects, the major ones of which are discussed below.

I. Researches completed during year:

A. *Insulin program*—A battery of tests and a series of experimental procedures were followed out with the insulin group studied by the research service as a whole. In the analysis of the findings two types were especially looked for: (1) those in which recovered patients distinguished themselves from non-recovered patients before medication and (2) those in which the medication had differing effects in the two groups despite similarity of response before medication. It is gratifying that indications of both kinds were found. At present, it appears that various aspects of the Stanford-Binet, the Kent-Rosanoff, the pursuitmeter and the galvanic skin reflex offer the most promising possibilities.

B. *Respiratory stress*—This experiment done by Dr. Rodnick in association with Dr. H. Freeman is reported upon in detail elsewhere.

C. *Tautophone*—An experiment carried out collaboratively by Dr. Rosenzweig and Mr. Shakow was concerned with the responses of patients and normal controls to auditory stimulus patterns. Different profiles of response appear for the normal, hebephrenic, and paranoid groups. The normal profile includes a relatively greater proportion of responses which have sentence structure, which follow the stimulus pattern closely, and meaningful and have ego-reference. The hebephrenic reactions, although consisting largely of meaningful responses in sentence structure, are relatively remote from the stimulus pattern and are frequently couched in a foreign language. The paranoid profile gives prominence to syllables and exhibits a tendency towards a later assignment of meaning to the originally non-meaningful responses. The results thus offer material significant for diagnostic purposes and is to be used as a regular test procedure in the testosterone schedule.

D. *Adrenalin association experiment*—Mr. Moore, in association with Dr. Cameron, completed a study of the effect of the administration of adrenalin on higher integrative mental functions. "Organization" responses and reaction-time were found to be the most effected. Most important seems to be the centripetal effect of adrenalin, viz., the tendency for characteristics already evidenced by the subjects to become more marked after adrenalin has been injected.

II. *Research in Progress:*

1. *Effect of sodium cyanide and cyclopropane*—In this experiment, being done by Dr. Rodnick in collaboration with Drs. H. Freeman and Rubin, the problems are primarily physiological. The details can be obtained in the reports of the latter two workers. Due to the importance of the galvanic skin reflex in emotional experiments generally, it was felt wise to take advantage of the experimental procedure set up to include the g.s.r. Opportunity is here offered to get some light on the central representation aspects of the g.s.r.

2. *Analytic play technique*—We have continued the intensive study of an 11-year old who was markedly immature in speech development and showed considerable asocial behavior. Some progress has been evidenced in both speech and general behavior.

3. *Thematic apperception test*—An intensive study of the thematic apperception test from the standpoints of validity and general usefulness for clinical purposes has been undertaken.

4. *Aspiration in psychopathic personality*—A continuation of the aspiration studies heretofore done with schizophrenic and normal subjects is being extended to psychopathic personalities.

III. *Analytic Work in Progress*—Work has continued on the analysis of various bodies of material collected, particularly on memory functions in normal subjects of various age levels and in the different psychotic groups, on Stanford-Binet results in the various psychoses and on Kent-Rosanoff Association Test results in schizophrenia.

IV. *Published Papers*—All papers published from the Psychology Department are included in the general list of publications to be found in the report of the Research Department.

V. *Papers in Press:*

1. Rosenzweig, S., et al. *Frustration as an experimental problem*. Charac. and Person. 1938.
2. Shakow, D. and Pazeian, B. *Adult norms for the K-S Clinical Formboards*. J. Appel. Psychol. 1939.
3. Shakow, D. *The psychologist in the State Hospital*. J. Consult. Psychol., 1939.
4. Hanfmann, E. *Thought disturbances in schizophrenia as revealed by a picture completion test*. J. Abn. and Soc. Psychol., 1939.

VI. *Scientific meetings attended*—Dr. Rodnick, Dr. Rosenzweig, Mr. Moore, Mr. Rotter and Mr. Shakow attended the American Psychological Association Meetings at Columbus, September, 1938. Mr. Shakow also attended the meetings of the American Association for Applied Psychologists at Columbus.

The experimental program for the next year consists primarily of the continuation of most of the present projects and the initiation of a few others connected with metrazol, insulin and testosterone administration. In addition the analysis of the accumulated data and the clinical application of our psychological findings are ever present goals.

LIBRARY REPORT

George L. Banay, Ph.D., Librarian

I. Medical Library

The past year represents a year of further expansion in the history of the medical library. To indicate the various activities and the progress, the following details are quoted:

Periodicals: The library had 126 periodicals in 1938 as compared with the 117 of the previous year. Of this number the hospital subscribed to 106, 2 were paid for by the Memorial Foundation for Neuro-Endocrine Research, 2 were donated by Dr. Bryan, 5 by Dr. Hoskins, 3 by Dr. Sleeper, and 1 by Dr. William Freeman, and 7 came in free from institutions and scientific organizations.

Of these periodicals 9 are in German, 6 in French, 4 in Italian, and 107 in English.

Circulation: The medical library circulated 818 volumes in 1938.

Interlibrary Loans: The librarian used the facilities of other near-by libraries and during the year the library borrowed 154 volumes from 8 libraries, as listed below:

Boston Medical Library	110	Harvard Medical School Library	4
N. Y. Acad. of Medicine Library	23	Harvard Business School Library	5
Brown University Library	1	Harvard Law School Library	1
Harvard College Library	9	Harvard Arboretum Library	1

Medical Library Association: Our library maintained the membership in the Medical Library Association. This Association is of the greatest benefit to all medical libraries in supplying them with missing and out-of-print material for the nominal charge of the postage. Sixty-four volumes were received from the Exchange of the Association during the year.

The librarian attended the meeting of the Association, held in Boston, June 28-30, 1938, working on various committees and taking part in the discussions.

New Books: Sixty-two new volumes have been added to the shelves, not including the newly bound volumes of periodicals.

Binding:—Two hundred and two volumes were bound during the year, mostly current issues of medical periodicals.

Present State:—On November 30, 1938 the medical library had:

Bound volumes of periodicals	4,067
Unbound volumes of periodicals	85
Bound volumes of books	1,796
Old books (mostly neurology and psychiatry)	1,288
Total books (an increase of 264 volumes)	7,236

Catalogued reprints and pamphlets, 6,888; Abstracts, 5,541; Lantern slides, 634.

Services:—The librarian continued to circulate the bibliographies and abstracts, prepared many special bibliographies, and translated foreign medical articles for the use of the staff. The bibliographies, abstracts, and translations are filed in the medical library.

W. P. A. Projects:—Three stenographers continued to work on the projects approved by the Federal Government, i.e. recataloguing of the books in the library and in the departments, compilation of a bibliography of schizophrenia, and completing the collected abstracts on schizophrenia.

Needs of the Library:—A stairway is needed in the very near future to connect the stock-room (just below the library) with the reading room to facilitate shifting of the old and little used material.

II. General Library

The general library was moved into its new quarters in 1936. At that time it was reorganized, the worn and obsolete material being eliminated. The shelves still look somewhat empty at the present time, but we shall build up the library systematically and hope to fill up the shelves in the not too remote future.

During 1938 one of the W. P. A. workers was in charge of the library and the Occupational Therapy students took the book trucks to the closed wards twice a week with books for the patients who were unable to come to the library.

We added 313 volumes to the shelves during the year.

On November 30, 1938, the general library had:

Books (fiction and non-fiction)	2,663	Bibles and prayer books	18
Serials	477	Reference books	166
Bound magazines	113		
			Total books
			3,437

Stereopticon slides 100

Fifty eight popular magazines and 6 daily newspapers are subscribed to by the hospital. In addition to our stock 150 books are borrowed every three months from the Worcester Public Library to circulate among the patients and the employees.

Arrangements have been made with the Free Public Library to lend 100 volumes every three months to the Summer Street Department. In addition to this 100 volumes are sent to Summer Street every three months from our general library in the main hospital, and 10 popular magazines and newspapers are subscribed to for this department.

The library is well patronized by patients and employees, the average monthly attendance being 1,201 patients and 272 employees.

During the year the library circulated 13,163 volumes and had 13,473 reading visitors.

A few churches of Worcester and the Free Public Library send to us old books and magazines regularly. We express our thanks to all who have given books and magazines to the general library.

CHAPLAIN'S DEPARTMENT

Carroll A. Wise, Chaplain

The activities of the Protestant Chaplain of this hospital fall conveniently under four headings: (1) religious services, (2) ward visitation, (3) education, and (4) community service.

Attendance at the religious services, which are held each Sunday morning at the main hospital and at the Summer Street Department, has averaged three hundred each Sunday. These services are approximately thirty-five minutes in length. The hymns and liturgy used in these services are from the hymnal, "Hymns of Hope and Courage", a book edited for use in mental hospitals. The sermon is brief, and seeks to relate religion to the emotional needs and problems of the patients. These services offer one form of normal experience which many of the patients found helpful before their admission to the hospital, and for which they feel a continuing need after admission.

Routine visits are made to the admission wards so that all new patients are seen within a week after their admission to the hospital. The medical and other psychiatric services are visited regularly, and individual patients are seen at any time when a visit is desired or indicated. Patients are frequently found who have unhealthy religious attitudes, and in whom a process of religious re-education may contribute to their general mental health.

The educational program of the chaplain's department centers chiefly in the training of theological students. In this work, the hospital is affiliated with the Council for the Clinical training of Theological Students, Inc. During the past year plans for a year's course in clinical training have been developed, and it is hoped that such a course will begin during the year of 1939. The demand for such training on the part of seminaries and students is increasing, and its value is being recognized in many sections of the church.

During the year the chaplain gave a series of four lectures on Religion and Mental Disorder to a group of Occupational Therapy Students, and a series of five lectures to a group of nursing students and social service students.

The community service of the chaplain consists largely in speaking before various groups on subjects related to the hospital and its work. During the past year the chaplain gave twenty such talks. Many requests for talks were referred to other members of the staff. In September, 1938, the chaplain attended a conference on Christianity and Mental Hygiene which was sponsored by the National Committee on Mental Hygiene and the Federal Council of Churches of Christ in America. He served as a member of the committee arranging this conference.

Perhaps the most significant work carried on by the chaplain during the past year, judging from the community standpoint, was that which resulted in the formation of a Department of Religion and Health in the Worcester Council of Churches. The purpose of this new department is "to study into the problems of health, particularly those of mental health and life adjustment, as they exist in the churches and the community; to cooperate with existing health agencies, including especially psychiatric agencies, so that the mutual interests of the churches, the agencies and the community as a whole might be better served, and to develop and sponsor practical programs, such as educational and research projects, designed to meet these ends." The enthusiasm and interest with which this proposal was received by the churches, and its immediate acceptance, is itself evidence of the value and effectiveness of the work of community education carried on by the hospital for a number of years. One project which this new Department has under consideration is the setting up of a consultation service through which clergymen may get professional advice in dealing with parish problems.

This report would not be complete without grateful acknowledgment of the financial support given by the Massachusetts Congregational Conference and Missionary Society to the work of this department during the past year. This support is much needed and greatly appreciated.

RADIO DEPARTMENT
Wallace F. Searle, Director

Routine Activities:

The routine activities of the department have been carried on as in past years including:

1. *Clerical work*—A. Typing of daily radio programs. B. Tabulating WSH programs in yearly book and preparation of monthly reports. C. Indexing of phonograph records. D. Continuity preparation for therapeutic radio programs.
2. *Church services*—Organ and piano accompaniments for Protestant and Episcopal Church services at Main and Summer Street Hospitals.
3. *Broadcasting by radio director*—A. News Bulletins—"Notables in the News". B. Announcing of special features. C. Accompanist for patients and employees musical programs.
4. *Repairing and maintenance of radio equipment*—Testing of tubes and minor repairs and trouble finding.
5. *Educational activities*—A. Lectures to Post-Graduate nurses; affiliates; and occupational therapists. B. Lectures to community organizations.
6. *Patients' Contribution to Radio Department*—A. Announcing and controlling of radio programs. B. Paging physicians. C. Typing miscellaneous records.

Musical Research with Excited and Depressed Patients:

Over a period of eight weeks a detailed study was made to learn the reaction of excited and depressed music upon excited and depressed patients. Sixteen musical sessions were held. In eight, by phonograph records. Each session occupied thirty minutes with a twenty minute musical period preluded and postluded by a five minute silent period. Musical programs designed to excite and depress were played for both excited and depressed patients. The programs were staggered in such a way that neither a memory nor monotony factor would enter in. At no time did both depressed and excited patients listen to the same program at the same time. Careful observations were made by trained observers who tabulated on charts the slightest change in affectivity and motor activity of patients during these sessions. Some of the interesting findings as revealed by the graphs later compiled relative to this study were:

1. No reaction or change in responsiveness to environment was manifested by the depressed patients at any time during either orchestra or phonograph programs; neither did they respond to differences in types of music, depressed or excited.
2. Motor activity in excited patients invariably decreased at the beginning of the music. This decrease remained at a slightly lower level during the musical periods, then climbed to a new high in motor activity after the music had ceased. The hallucinatory activity of this group was slightly attenuated during the musical periods and noticeably increased after the music was concluded.
3. An interesting comment of a depressed patient who had been totally inactive during these sessions, after she had had metrazol shocks was, "I must have been too ill to remember having listened to the music."

New Projects in the Radio Department:

"Airways to the Mind"

A series of weekly radio programs especially planned for the patients at this hospital entitled, "Airways to the Mind" has proven very successful. They were designed to disseminate mental hygiene, to emphasize important facts about the hospital, to stress mental health rather than mental disease; to entertain and to educate. The programs as outlined were as follows:

1. Station announcement and opening theme song.
2. Opening announcements explaining the program and its purpose.
3. Musical appreciation (explaining some interesting aspects of short symphonic selections).
4. Therapeutic hospital drama (depicting in dramatic form a typical hospital "lesson" such as a patient receiving parole, a staff meeting, etc.) Hospital patients and employees comprise the cast.
5. Patient performance: Patients who played instruments well or sang were featured in a dignified way on these programs.
6. Paroles granted: Paroles, promotions, discharges, and trial visits were read.

7. Weekly travelogue: Each week a staff member was interviewed on some tour or cruise he had experienced. This was done in an informal manner with a minimum of written material. Some of the travelogues were "The romance of Quebec"; "My trip around the world"; "Flying to Alaska"; "Around the Great Lakes"; "My home is in Washington, D.C.;" "Hospitals and Hospitality in England"; "The romance of Venice."

8. Continuity: All material was typewritten with the exception of the travelogue. A theme song was interwoven between the various features. Various phases of Mental Hygiene were stressed during the program. Proof that the patients listened to and enjoyed these programs were the many letters of comment written to the radio room by patients. After one travelogue over 50 letters came in. We believed the patients would be interested in hearing about the travels and personal experiences of some of the physicians and heads of departments; that this would be more interesting than a "cut and dried" paper, and also that the staff members themselves would accept more readily this idea. Both of these suppositions proved to be true. This program is from 45-60 minutes in length. Generally speaking this is too long for the sustained attention of mental patients but because of the variety and the expectancy of the "Travelogue" their interest is fairly well retained, especially on locked wards. This is the most successful series of programs we have presented.

Paging Physicians:

During the month of December we experimented in the matter of paging physicians via radio. This has never been done before at our hospital except during meal-time. After a study was made relative to the efficiency of this system as well as the reaction of the staff and patients the following facts were outstanding: A. Staff-members were located much quicker than with the old bell system. B. All physicians and department heads prefer being called via radio than by bells. C. Many times patients will tell physicians when they are being paged. D. Several times patients have commented about calls such as, "Dr.—— must be a busy man, etc." E. Some hallucinated patients have shown less agitation at the paging than the bells. F. According to supervisors, nurses, and attendants no patients have complained of this system. G. As most patients are in industry during the day time (calls cease after 6 P. M.) this does not interfere with evening programs. H. 1888 calls were made during the last three weeks in December.

THE STEWARD'S DEPARTMENT *Herbert W. Smith, Steward*

A revised and completed system of financial control, the planning for smaller inventories and controlled stock distribution were the outstanding contributions of the Steward's Department during the past year. Changes in personnel were not excessive and on the whole results obtained in 1938 were satisfactory.

We again stress the need for new storeroom and laundry facilities, and continually live in hopes that each year will see favorable action taken on the plans and specifications as laid out. For several years we have called attention to the deplorable state of our present inadequate laundry. The building is dark, dingy and poorly ventilated and working conditions are bad. Machinery is antiquated and mechanical breakdowns of serious nature are imminent.

Under our present system of handling and storing merchandise, which amounts to approximately \$450,000 each year, there is bound to be a wastage, and there always will be until it can be brought under proper physical and financial control. The use of space for storerooms that was originally intended for sleeping purposes is not conducive to good supervision of supplies. It is almost impossible to account properly for the use of merchandise where perpetual inventories are not required. The present specified system of accounting is carried on in a so-called "Expense Ledger" that means nothing, proves nothing, and cannot be considered of any value as a control factor.

We believe all merchandise should be controlled by perpetual inventories and when this is not practiced, waste and loss is bound to creep into the results obtained. Although no pressure has been brought to bear on us to make material changes in the system now in use, it is our intention to do so just as soon as they can be properly assimilated and efficient systems devised to bring them under control.

There are several angles to inventories as they apply to the operation of any hospital. Inventories covering the storage of undistributed supplies are no more important than are the inventories covering certain classifications of supplies after their distribution to the various wards and departments of the hospital. In either case, surplus material can

accumulate on shelves and in closets that results in merchandise in excess of demands and proper inventories. This procedure can freeze assets that, in some cases, are never thawed out.

The hospital pharmacy has been reorganized with its stock placed directly under the supervision of the steward's department. A perpetual inventory was established and it was soon found that no detriment to medical service ensued from a great reduction in variety and quantity of drugs, and almost complete abolition of stocks from which compounding is done. Insofar as possible ward supplies of drugs were held within a two days supply. The success of this reorganization is apparent to all concerned.

Another example of controlled inventory established during the year under this department is the sheet control system. A quota of two sheets per bed forms a basic inventory, and all other sheets used are obtained at central control points, that operate on a loan system. This method eliminates accumulated surplus and defines loss without adding any great burden to the time factor involved.

All these matters have a direct bearing on operating cost which, in the last analysis, affects the patient weekly per capita cost rate. The trend of this rate has been upward for several years past, and it will only turn when good business management is applied to each individual hospital. This means good accounting and control of finances, inventories and distribution of supplies.

During this year, it will be the endeavor of this department to apply such management to this hospital, and we are now laying plans to put it into effect as soon as possible. In time it should reflect itself in the downward trend of patient per capita cost without lowering in any particular the hospital standards as they exist today.

FARM REPORT

James Mistark, Head Farmer

A carefully planned planting program was inaugurated at the beginning of the garden season. Each field of soil had been carefully tested for calcium, nitrates, phosphorus and potash. Consideration was given to what each particular crop needed in the line of plant food, soil type, drainage and location. Fields which showed acidity were corrected by the use of agricultural lime to suit the requirements of the particular crop.

The idea in mind was to get a larger yield per acre, using less land and reaping a larger yield, which would mean fewer rows to weed, cultivate and spray, and to keep down unnecessary surplus vegetables that can be quite a problem. This idea fits in well with our rotation program.

This routine brought us an abundant crop of early vegetables, with a remarkable yield and the fewest weeds in history. The heavy rains during the latter part of July reduced the yield of many of the later crops as much as 40-60 per cent. We hope to continue planned planting, fertilization and crop rotation next year.

Hay yielded very heavily, producing enough hay to carry us through the entire year, supplying dry stock, heifers, bulls and horses. The hay was harvested early in June before the rainy weather set in. This early harvesting gave us a fine crop of second cutting hay. To ease the harvest a hay carrier and hoist was installed in the large barn, Home Farm, saving very much hard manual labor and eliminated the dangerous heights for hand pitching.

The Ensilage corn crop produced heavily, filling three silos. This fed out very well and with the home produced hay we reduced the cost of producing milk considerably.

Swamp reclaiming progressed with unusual vigor, adding at least seven acres of fine virgin land that shall help out a great deal in our rotation program.

One crawler tractor, obsolete, was traded in towards a new F-30 tractor, heavy duty rubber tires. This tractor not only replaced the crawler type but travels to our Hillside Farm on its own power, and saves the loading into a truck as was necessary with the crawler tractor.

The correlation of patient therapy and production demand continues to be a problem. Many of the garden, dairy and miscellaneous farm jobs require some certain skill. It is not always possible to have an adequate number of patients with the abilities necessary to production pressure.

The non-parole groups that do most of the weeding, cultivating and harvesting have dropped in efficiency. Many members need closed supervision to prevent unnecessary loss by destruction of plants during weeding and harvesting. We believe it necessary for the attendant to spend a great deal of time teaching his workers. A closer check should be given the attendant as to his method of teaching.

With the aid of our Pathologist we have practically stamped out all chronic mastitis. A large number of heifers freshening during the year have added considerably to the milking herd. We are commencing to reap the fruit of a well planned breeding program.

Some of the newly added features during the past year are:

A *soil tester* which gives us a detailed analysis. In past years it was necessary to deliver soil samples to the State College.

Electric Fencing. This unit with but one wire, charged with a low voltage, keeps cows in a restricted area very well. With this we were able to give our cows a summer pasture, so essential to a milking herd, the first since the location of the new barn at the Home Farm.

All dump carts and farm wagons have been converted to rubber tires to keep in pace with our rubber tractor equipment.

The rear of the Male Home has been graded and landscaped, making a very attractive lawn.

The old baseball site was lengthened, regraded and reseeded and a retaining wall built on the South side. This should be a fine ball park next year.

At the end of a four day heavy rain storm, September 21, at 4 o'clock in the afternoon a terrific gale-hurricane wind uprooted more than half of the many fine shade trees at Summer Street and the Main Hospital. We estimated over 5000 trees were uprooted, broken down beyond repair. Most of these trees were in perfect shade condition, as a result of a pruning and fertilizing program put into effect about four years ago. It will take about four years to prune and rejuvenate the remainder of these storm damaged trees and about fifty years to re-establish the grounds to proper shape.

Much damage was done to farm crops, shredding late sweet corn, late spinach, beans and turnips. We were fortunate to have had harvested all but two acres of fine silage corn. Many crops in the low areas were flooded with water.

A few of the farm buildings were also damaged.

ENGINEER'S REPORT

Warren G. Proctor, Chief Engineer

The plant has been operating on oil since January 1, 1938 and during that time we have burned 1,389,856 gallons of "Bunker C" oil at an average cost of 3½ cents per gallon which would make a total fuel bill for the year of approximately \$48,644.96. This quantity of oil is comparable to 7,619 tons of coal at the main plant from 1928 to 1938. Coal at \$7 per ton would cost approximately \$53,333.

The advantages of oil are:—

1. Ease of handling. The oil is fed to the burners by pumps. This eliminates the labor of an attendant and twenty-five patients who wheeled in from twelve to forty tons of coal each day and removed from eight to thirty tons of ash each week.

2. Cleanliness. Coal must be shoveled many times and during each operation coal dust passes off into the air. This made it hard to keep the boiler room clean. The coal dust was also carried into the Hospital creating a housekeeping problem.

3. Boiler maintenance. The surfaces of the boilers exposed to combustion have been much cleaner, thus increasing their efficiency. Stoker repairs and upkeep have been eliminated. This has always been a costly item. Furnace walls and brick work are in excellent condition and their care and proper maintenance is much easier and less expensive. Due to the installation of a large boiler we are able to operate most of the time on one boiler and maintain a steady steam pressure. This again is a more efficient operation.

The new turbines and engine have been giving excellent service. Each one of the new generators is capable of carrying the entire load which was beyond the capacity of our old plant. During the year of 1938 we generated 1,414,600 K.W., and in 1930 we generated 392,830 K.W.

This shows an increase of 360% in the use of electricity. The additional electric load is accounted for by the installation of fans in our attics which are operated by large motors also motor driven fans in new Hydro.

Suitable illumination promotes cleanliness and prevents accidents.

During the September hurricane the Engineer's department suffered only slight damage. Two panes of glass were broken in a sky light, a branch broke a wire on line leading to farm and a tree fell on wires near cottage, but in the main hospital service was maintained without interruption as it also was at the Summer Street Department. Many other places suffered the loss of light, power, and even fire protection.

New refrigerating apparatus has been installed which is more efficient with a wider range of temperature where required and greater economy in operation.

New machinery has been purchased for our machine shop that is of great assistance in making repairs, throughout the hospital.

Engineers are continuing to study and work for higher licenses. One second class engineer passed the examination for a first, and three other second class engineers are working to improve their knowledge and to receive certification. One fireman has advanced from second to first class.

A request has been made to change the rating of this plant from second class to first class.

A fire alarm system designed by the Gamewell Company has been placed in service. The telephone operator is able with one signal to notify the entire Hospital of a fire and its location. When an alarm is given each group has assigned duties to perform: Doctors, nurses and attendants to care for the patients, mechanics to fight the fire and others to police the grounds and direct traffic.

The buildings are frequently inspected by members of the Worcester Fire Department and also by engineers from the Department of Mental Health.

Many recommendations made by these inspectors have been carried out; others demand a special appropriation to fulfill.

MAINTENANCE DEPARTMENT

Anton Svenson, Maintenance Foreman

In all maintenance and repair work we have attempted to combine results with economy in hospital operation. Special emphasis has been laid upon proper planning and layouts as the best method to insure permanent results. The manner of repairing and altering buildings may vary according to an individual's ideas and with the requirements of each undertaking. Unlike most other buildings, the mental hospital is occupied by patients, many of whom at times are destructive. Repairs are especially frequent as some buildings are more than one hundred years old. The range of maintenance projects carried on during the year is a wide one. It includes the inspection of work done by contractors to see that their work is completed in accordance with plans and specifications; ordinary maintenance; and to them has been added this year the burden of hurricane and storm damage.

The painting, plastering, masonry, and carpentry work has been increased through W.P.A. labor. The interior of nineteen wards has been completely repaired and redecorated; also the exterior stone and brick masonry of many buildings has been painted.

Special projects during the year were the temporary and permanent protection of buildings damaged by hurricane, the addition of an insulated tar and gravel roof over the kitchen and laundry through the installation of fans or ventilators to remove foul air and reduce humidity; complete air changes are possible now in these buildings; the installation manually operated window controls in the kitchen; the installation of a modern plumbing system in the Sargent building and in part of the Male Employees Dormitory.

This past year, owing to effects of the hurricane, glazing became a major item in all buildings, including the greenhouse. A great amount of time, labor and materials were necessary to complete this item as the painters replaced 20,000 panes of glass. The carpenters replaced 10,000 feet of window cord and in other work used 600 gross of screws and 30 kegs of nails. The masonry repairs included brick, stone, and concrete work at various buildings both interior and exterior. Many concrete walks have been repaired or replaced, and over 2 carloads of cement have been used in this work.

Copper base—and counter-flashing, moreover, have been installed on the roof, and in the parapet walls of Woodward building; thereby eliminating the penetration of the moisture to plastered walls and ceilings. The extensive effects of the September hurricane necessitated many repairs to slate, tar and gravel roofs.

Certain outstanding needs of the hospital have been requested in other reports. It seems useless to reiterate these needs each year. They are increasingly important with the passage of time and the longer they are delayed the more the cost.

My personal appreciation is due to all officers and employees of the hospital who have rendered faithful and cooperative service during the year. Such loyalty is the important factor in the progress of any organization.

WILLIAM A. BRYAN, *Superintendent*,

VALUATION

November 30, 1938

Real estate — Land, 584.95 acres	\$ 389,507.00
Buildings and betterments	2,443,598.50
	<u>\$2,833,105.50</u>

FINANCIAL REPORT

To the Department of Mental Diseases:

I respectfully submit the following report of the finances of this institution for the fiscal year ending November 30, 1938.

STATEMENT OF EARNINGS

Board of Patients	\$ 66,687.29
Personal Services	314.43
Sales:	
Food	\$1,693.67
Clothing and materials	23.10
Furnishings and household supplies	105.95
Medical and general care	200.90
Heat and other plant operations	72.00
Repairs ordinary	327.13
Farm:	
Cows, calves, pigs and bulls	2,407.61
Hides	21.85
Vegetables, tools, etc.	237.66
Total Sales	<u>5,089.87</u>
Miscellaneous:	
Interest on bank balances	\$112.50
Rents	1,315.14
Court fees; \$39.50; lectures \$90; Tel. Com. \$136.26; Patients' valuables, \$204.22; P & D Frt. \$21.78; Misc. \$63	<u>554.76</u>
Total Miscellaneous	<u>1,982.40</u>

Total earnings for the year	\$74,073.99
Total cash receipts reverting and transferred to the State Treasurer	<u>\$74,121.32</u>
Accounts receivable outstanding December 1, 1937	\$55.00
Accounts receivable outstanding November 30, 1938	7.67

Accounts receivable decreased	<u>\$47.33</u>
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MAINTENANCE APPROPRIATION

Balance from previous year, brought forward	\$ 7,852.15
Appropriation, current year	<u>1,105,150.00</u>
Total	<u>\$1,113,002.15</u>

Expenditures as follows:	
Personal services	\$620,521.50
Food	201,693.71
Medical and general care	42,714.00
Religious instruction	2,860.00
Farm	23,887.06
Heat and other plant operation	83,857.73
Travel, transportation and office expenses (Garage, \$4,903.46; grounds, \$1,319.52)	11,897.64
Clothing and materials	6,222.98
Furnishings and household supplies	22,817.80
Repairs ordinary	35,957.25
Repairs and renewals	16,286.87
	<u>31,454.40</u>

Total maintenance expenditures	<u>\$1,100,170.94</u>
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Balances of maintenance appropriation, November 30, 1938	<u>12,831.21</u>
	<u>\$1,113,002.15</u>

SPECIAL APPROPRIATIONS

Balance December 1, 1937, brought forward	\$84,031.79
Appropriations for current year	268,350.00

Total	\$352,381.79
Expended during the year	<u>\$110,325.44</u>
Reverting to Treasury of Commonwealth	<u>110,325.44</u>

Balance November 30, 1938, carried to next year	<u>\$242,056.35</u>
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APPROPRIATION	Act or Resolve Chap.—Yr.	Total Amount Appropriated	Expended during fiscal year	Total Expended to date	Balance at end of year
Hydrotherapy Building, M.S.P.M. 50, PWA D. 4657		\$127,173.41	\$842.67	\$127,147.59	\$25.82
Mechanical refrigeration	234-1937	14,400.00	9,357.61	13,900.93	499.07
Porch — Administration Bldg.	304-1936	5,500.00	349.15	5,497.65	2.35
Plumbing — Summer Street Hospital	234A-1937	12,300.00	61.12	12,298.98	1.02
New boilers, stokers, etc.	304-1936	270,000.00	60,557.88	266,664.90	3,335.10
Fire alarm system	934-1937	9,000.00	8,543.27	8,543.27	456.73
X-ray equipment	356-1938	8,000.00	—	—	8,000.00
Medical equipment	356-1938	5,000.00	—	—	5,000.00
Bake ovens	356-1938	6,550.00	.46	.46	6,549.54
Electric wiring	356-1938	10,000.00	—	—	10,000.00
Plumbing — Summer Street Hospital	356A-1938	12,300.00	11,167.25	11,167.25	1,132.75
Renovation of plumbing — Employees' Bldg.	234-1937 304-1936	10,500.00	10,120.80	10,120.80	379.20
Hurricane and flood damage	507-1938	216,000.00	9,325.23	9,325.23	206,674.77
		\$706,723.41	\$110,325.44	\$464,667.06	\$242,056.35

PER CAPITA

During the year the average number of patients has been, 2,467.36.

Total cost of maintenance, \$1,100,170.94.

Equal to a weekly per capita cost of \$8.5748.

Total receipts for the year, \$74,121.32.

Equal to a weekly per capita of \$.5777.

Total net cost of maintenance for year, \$1,026,049.62.

Net weekly per capita, \$7.9971.

Respectfully submitted,

MARGARET T. CRIMMINS,

Treasurer.

Financial statement verified.

Approved

GEO. E. MURPHY,
Comptroller.

STATEMENT OF FUNDS

November 30, 1938

INSULIN TREATMENT FOR DEMENTIA PRAECOX

Balance on hand November 30, 1937				\$62.38
Expended to November 30, 1938				48.31
Balance on hand November 30, 1938				\$14.07
Worcester County Trust Co.			Investment	
Balance on hand November 30, 1937			CANTEEN FUND	
Receipts to November 30, 1938				\$958.60
Expended to November 30, 1938				20,744.14
Cash on hand November 30, 1938				\$21,702.74
Worcester Depositors Corp. (Class A Certificate)				19,916.54
Mechanics National Bank				
Cash on hand November 30, 1938				\$1,786.20
Interest			Investments	
Balance on hand November 30, 1937			PATIENT'S FUND	
Receipts				\$7,196.56
Interest				7,157.38
Expended				112.50
Interest paid to State Treasurer				\$14,466.44
Balance on hand November 30, 1938				\$8,972.77
Worcester County Institution for Savings				112.50
Worcester Five Cents Savings Bank				\$9,085.27
Worcester Mechanics Savings Bank				
Peoples Savings Bank				1,000.00
Bay State Savings Bank				1,000.00
Worcester Depositors Corp. (Class A Cert.)				60.00
Balance Mechanics National Bank				1,128.20
Cash on hand November 30, 1938				192.97
				\$5,381.17

\$5,381.17

ROCKEFELLER RESEARCH PROJECT		
Balance on hand November 30, 1937		\$1,856.30
Receipts to November 30, 1938		16,018.32
Expended to November 30, 1938		\$17,874.62
Balance on hand November 30, 1938		16,264.28
	Investment	
Worcester County Trust Co.		\$1,610.34
	WHEELER FUND	
Balance on hand November 30, 1937		\$1,054.42
Income to November 30, 1938		25.00
Expended to November 30, 1938		\$1,079.42
Balance on hand November 30, 1938		61.41
	Investment	
Worcester Mechanics Savings Bank		\$1,018.01
Balance Mechanics National Bank		
Balance on hand November 30, 1937		\$1,000.00
Income to November 30, 1938		18.01
Expended to November 30, 1938		\$1,018.01
	CLEMENT FUND	
Balance on hand November 30, 1937		\$1,000.00
Income to November 30, 1938		25.00
Expended to November 30, 1938		\$1,025.00
Balance on hand November 30, 1938		25.00
	Investment	
Worcester County Institution for Savings		\$1,000.00
	LEWIS FUND	
Balance on hand November 30, 1937		\$1,368.47
Income to November 30, 1938		32.50
Expended to November 30, 1938		\$1,400.97
Balance on hand November 30, 1938		84.72
	Investments	
Worcester Five Cents Savings Bank		\$1,316.25
Balance Mechanics National Bank		
Balance on hand November 30, 1937		\$1,300.00
Income to November 30, 1938		16.25
Expended to November 30, 1938		\$1,316.25
Balance on hand November 30, 1938		
	MANSON FUND	
Balance on hand November 30, 1937		\$1,112.21
Income to November 30, 1938		26.03
Expended to November 30, 1938		\$1,138.24
Balance on hand November 30, 1938		.83
	Investment	
Millbury Savings Bank		\$1,137.41

STATISTICAL TABLES

AS ADOPTED BY THE AMERICAN PSYCHIATRIC ASSOCIATION PRESCRIBED BY THE
MASSACHUSETTS DEPARTMENT OF MENTAL HEALTH

TABLE 1. *General Information*

(Data correct at end of institution year November 30, 1938)

Date of opening as a ho
Type of hospital: State

Type of hospital
Hospital plant

ospital plant: Value of hospital property

**Value of hospital property.
Real estate, including buildings**

Personal property \$478,420.48

Total

Total acreage of hospital property owned, 584.95.

Additional acreage rented, 40.

Total acreage under cultivation and employment.

Officers and employees:

	Actually in Service at End of Year			Vacancies at End of Year		
	M.	F.	T.	M.	F.	T.
Superintendents	1	—	1	—	—	—
Assistant physicians	41	1	12	1	—	1
Clinical assistants	2	—	2	—	—	—
 Total physicians	14	1	15	1	—	1
Stewards	1	—	1	—	—	—
Resident dentists	1	—	1	—	—	—
Pharmacists	1	—	1	—	—	—
Graduate nurses	3	67	70	1	—	1
Other nurses and attendants	141	160	301	1	1	2
Occupational therapists	—	4	4	—	1	1
Social workers	—	4	4	—	—	—
All other officers and employees	139	90	229	9	—	9
 Total officers and employees	300	326	626	12	2	14

Classification by Diagnosis September 30, 1938

Census of Patient Population at end of year:

	Actually in Hospital			Absent from Hospital but still on Books		
	M.	F.	T.	M.	F.	T.
WHITE:						
Insane	1,134	1,169	2,303	229	293	522
Mental defectives	—	1	1	—	1	1
Alcoholics	1	—	1	—	—	—
All other cases	4	3	7	—	—	—
Total	1,139	1,173	2,312	229	294	523
OTHER RACES:						
Insane	25	27	52	4	4	8
Mental defectives	—	—	—	—	1	1
Total	25	27	52	4	5	9
Grand Total	1,164	1,200	2,364	233	299	532
				M.	F.	T.
Patients under treatment in occupational-therapy classes, including physical training, on date of report	188	168	356			
Other patients employed in general work of hospital on date of report	504	647	1,151			
Average daily number of all patients actually in hospital during year	1,153.38	1,202.40	2,355.78			
Voluntary patients admitted during year	10	1	11			
Persons given advice or treatment in out-patient clinics during year	130	165	295			

TABLE 2. *Movement of Patient Population for the Year Ended September 30, 1938*
(Data in all of the following tables are based on the Statistical Year, October 1, 1937, to September 30, 1938)

	TOTAL			REGULAR COURT COMMITMENT (INSANE)			OBSERVATION			TEMPORARY CARE			VOLUNTARY CARE		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
Patients on books of institution September 30, 1937	1,372	1,451	2,823	1,371	1,450	2,821	1	1	2	-	-	-	-	-	-
Admissions during year:															
First admissions	314	228	542	238	198	436	63	21	84	9	8	17	4	1	5
Readmissions	102	96	198	78	93	171	13	3	16	5	5	6	6	-	6
Total admissions	416	324	740	316	291	607	76	24	100	14	8	22	10	1	11
Transfers from other mental hospitals	7	14	21	14	21	21	-	-	-	-	-	-	-	-	-
Total received during year	423	338	761	323	305	628	76	24	100	14	8	22	10	1	11
Total on books during year	1,795	1,789	3,584	1,694	1,755	3,449	77	25	102	14	8	22	10	1	11
Discharged from books during year:															
As recovered	82	42	124	64	38	102	18	4	22	-	-	-	-	-	-
As improved	95	86	181	93	85	178	2	1	3	-	-	-	-	-	-
As unimproved	34	35	69	26	28	54	3	3	6	4	4	9	-	-	-
As without psychosis	58	11	69	1	3	4	46	7	53	5	1	6	6	-	6
Total discharged to community	269	174	443	184	154	338	69	15	84	10	5	15	6	-	6
Transferred to other mental hospitals	24	8	32	24	8	32	32	8	32	-	-	-	-	-	-
Died during year	105	108	213	95	96	191	5	9	14	4	3	7	1	-	1
Total discharged, transferred and died during year:	398	290	688	303	258	561	74	24	98	14	8	22	7	-	7
Patients remaining on books of hospital at end of year:															
In hospital	1,164	1,200	2,364	1,158	1,198	2,336	3	1	4	-	-	-	3	1	4
On parole or otherwise absent	1,233	299	532	233	299	532	-	-	-	-	-	-	3	1	4
Total	1,397	1,409	2,896	1,391	1,407	2,888	3	1	4	-	-	-	3	1	4
SUPPLEMENTARY DATA															
Average daily number of patients on books during year							1,388	80	1,469	64	2,358	44			
Actually in institution during year							1,153	38	1,202	40	2,355	78			
In family care							31	00	75	00	106	00			
On visit							199	42	188	41	387	83			
On escape							5	00	3	83	8	83			
Number of patients actually remaining in institution September 30, 1938							1,095		1,087		2,182				
State							68		112		180				
Reimbursing							1		1		2				
Ex-service patients paid by Federal Government							33		75		108				
Number of patients in family care September 30, 1938:							25		54		79				
State							-		1		1				
Reimbursing							8		21		29				
Private							-		-		-				
Number of non-insane patients in hospital at end of institution year:							5		1		1				
Mentally defective							-		-		-				
Others							-		-		-				

TABLE 3. *Nativity of First Admissions and of Parents of First Admissions*

NATIVITY	PATIENTS			PARENTS OF MALE PATIENTS			PARENTS OF FEMALE PATIENTS		
	M.	F.	T.	Both Fathers Mothers Parents			Fathers	Mothers	Both Parents
				Fathers	Mothers	Parents			
United States ¹	215	155	370	97	95	78	70	74	59
Austria	—	1	1	—	—	—	2	3	1
Canada ²	20	22	42	52	49	42	36	38	32
China	1	—	1	—	1	—	—	—	—
Czecho-Slovakia	1	—	1	1	1	1	—	—	—
Denmark	1	—	1	1	2	1	1	—	—
England	3	8	11	7	10	4	13	12	9
Finland	3	2	5	6	6	6	3	4	3
France	—	1	1	1	—	—	1	2	1
Germany	1	1	2	6	5	4	2	3	2
Greece	4	—	4	6	5	5	1	1	1
Holland	1	—	1	1	1	1	—	—	—
Hungary	1	—	1	—	1	—	—	—	—
Ireland	23	12	35	56	59	49	31	30	29
Italy	6	4	10	13	13	13	9	9	9
Norway	—	—	—	—	—	—	1	1	1
Poland	12	8	20	19	19	19	16	14	14
Portugal	—	1	1	—	—	—	1	1	1
Russia	3	1	4	5	6	5	3	3	2
Scotland	2	2	4	3	4	1	5	5	4
South America	1	—	1	—	—	—	—	—	—
Sweden	7	5	12	9	9	9	11	9	9
Switzerland	—	—	—	2	1	1	—	—	—
Turkey in Asia	4	2	6	5	5	5	2	2	2
Other Countries	4	2	6	6	6	6	5	4	4
Unknown	1	1	2	18	16	13	15	13	12
Total	314	228	542	314	314	263	228	228	195

¹(Persons born in Hawaii, Porto Rico and the Virgin Islands should be recorded as born in the United States.)

²Includes Newfoundland.

TABLE 4. *Age of First Admissions Classified with Reference to Nativity, and Length of Residence in the United States of the Foreign Born*

AGE AT ADMISSION	Aggregate	NATIVE BORN												FOREIGN BORN													
		PARENTAGE						TIME IN UNITED STATES BEFORE ADMISSION						Nativity Unknown						Unknown						M. F. T.	
		Total			Foreign			Mixed			Native			Total			Under 5 years			10-14 years			15 years and over			M. F. T.	
M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.	M. F. T.			
0-14 years	1	3	4	1	3	4	1	1	8	7	1	1	7	1	1	2	1	1	1	1	1	1	1	1	1	1	
15-19 years	16	4	20	15	3	18	7	1	8	7	2	9	7	6	13	1	1	2	1	1	1	1	1	1	1	1	
20-24 years	28	14	42	26	14	40	12	6	18	10	8	18	3	1	4	4	6	10	1	1	3	6	9	2	2	1	
25-29 years	20	22	42	17	16	33	10	6	18	11	5	19	2	5	7	5	16	1	1	3	2	5	2	4	1	1	
30-34 years	27	21	48	24	19	43	11	8	19	11	12	34	11	6	17	4	2	6	3	1	1	2	3	8	16	1	
35-39 years	31	22	53	22	12	32	12	4	16	11	1	16	1	1	2	11	3	14	1	1	1	1	1	7	13	1	
40-44 years	32	14	46	24	8	32	12	4	16	11	1	16	1	1	2	11	7	14	3	1	4	9	7	16	1	1	
45-49 years	25	22	47	15	15	30	4	5	9	1	5	15	1	5	9	1	4	6	5	1	4	9	7	16	1	1	
50-54 years	26	13	39	11	8	19	4	1	5	2	4	6	5	3	8	1	1	5	20	1	1	1	1	1	15	5	20
55-59 years	20	13	33	15	11	26	7	5	12	1	1	2	2	1	3	3	4	7	3	1	4	5	2	7	1	1	
60-64 years	25	13	38	16	8	24	5	2	7	1	1	2	8	4	12	2	1	3	1	1	1	1	1	1	1	1	
65-69 years	16	20	36	6	12	18	2	4	6	1	2	3	3	5	8	1	1	1	10	7	17	1	1	1	1	1	
70-74 years	15	17	32	10	10	20	2	4	6	2	1	3	3	4	7	3	2	5	1	1	5	7	12	1	1	1	
75-79 years	20	14	34	7	5	12	3	6	2	1	3	2	1	3	1	1	4	5	3	2	5	4	6	1	1	1	
80-84 years	10	10	20	6	8	14	2	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	-	
85 years and over	2	6	8	-	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Total	314	228	542	215	155	370	92	60	152	30	22	52	78	59	137	15	14	29	98	72	170	1	-	1	2	3	
																								90	66	156	

TABLE 5. *Citizenship of First Admissions*

									M.	F.	T.
Citizens by birth									216	156	372
Citizens by naturalization									31	14	45
Aliens									29	23	52
First papers									6	—	6
Citizenship unknown									32	35	67
Total									314	228	542

TABLE 6. *Race of First Admissions Classified with Reference to Principal Psychoses*

RACE	Total			With syphilitic meningo-encephalitis			With other forms of syphilis			With epidemic encephalitis			With other infectious diseases			Alcoholic psychoses		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
African (black)	6	1	7	2	1	3	—	—	—	—	—	—	—	—	—	—	—	—
Armenian	5	—	5	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Chinese	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dutch and Flemish	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
English	4	13	17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Finnish	6	3	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
French	35	24	59	4	—	4	—	—	—	—	—	—	—	—	—	5	—	5
German	4	3	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Greek	6	1	7	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Hebrew	5	5	10	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Irish	52	33	85	3	—	3	—	—	—	—	—	—	—	1	1	10	—	10
Italian	13	9	22	3	—	3	1	—	1	—	—	—	1	1	—	—	—	—
Lithuanian	6	2	8	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1
Portuguese	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scandinavian ²	10	10	20	—	1	1	—	—	—	—	—	—	—	—	1	1	2	—
Scotch	1	4	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Slavonic ³ ⁴	19	15	34	1	—	1	—	—	—	—	—	—	—	—	3	1	4	—
Syrian	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Turkish	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other specific races	1	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed	124	89	213	9	3	12	3	—	3	1	1	2	—	2	2	21	1	22
Race unknown	14	11	25	—	—	—	—	—	—	—	—	—	1	—	1	2	1	3
Total	314	228	542	27	5	32	4	—	4	1	1	2	1	4	5	43	4	47

TABLE 6. *Race of First Admissions Classified with Reference to Principal Psychoses — Continued*

RACE	Due to drugs, etc.		Traumatic psychoses		With cerebral arteriosclerosis			With other disturbances of circulation			With convulsive disorders (epilepsy)			Senile psychoses				
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.			
African (black)	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	—	—
Armenian	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—	2	—
Chinese	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dutch and Flemish	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—
English	—	—	—	—	—	—	2	4	6	—	—	—	—	—	—	2	—	2
Finnish	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	1	—
French	—	1	1	—	—	—	9	7	16	1	—	1	—	—	—	5	—	5
German	—	—	—	—	1	—	—	—	—	—	—	—	—	—	1	—	1	—
Greek	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Hebrew	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Irish	1	1	2	1	—	1	18	14	32	—	1	1	—	—	4	4	8	—
Italian ¹	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	2	—	2
Lithuanian	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Portuguese	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Scandinavian ²	—	—	—	—	—	—	4	1	5	—	—	—	—	—	—	1	—	1
Scotch	—	—	—	—	—	—	—	1	—	1	1	—	1	—	—	2	—	2
Slavonic ³ ⁴	—	—	—	1	—	1	2	1	3	1	—	1	—	—	—	1	—	1
Syrian	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Turkish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other specific races	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mixed	1	1	2	1	1	2	10	19	29	—	—	—	2	—	2	6	11	17
Race unknown	—	1	1	—	—	—	5	3	8	—	—	—	1	1	2	1	2	3
Total	2	4	6	5	1	6	53	51	104	3	2	5	4	1	5	15	31	46

¹Includes "North" and "South".²Norwegians, Danes and Swedes.³Includes Bohemian, Bosnian, Croatian, Dalmatian, Herzegovinian, Montenegrin, Moravian, Polish, Russian, Ruthenian, Servian, Slovak, Slovenian.⁴Undiagnosed psychoses, 1 Female.

TABLE 6. *Race of First Admissions Classified with Reference to Principal Psychoses* — Continued

RACE	Involutional psychoses			Due to other metabolic diseases, etc.	Due to new growth	With organic changes of nervous system	Psycho-neuroses			Manic-depressive psychoses		
	M.	F.	T.				M.	F.	T.	M.	F.	T.
African (black) . . .	—	—	—	—	—	—	1	—	1	—	—	—
Armenian . . .	—	—	—	—	—	—	—	—	—	—	—	—
Chinese . . .	—	—	—	—	—	—	—	—	—	—	—	—
Dutch and Flemish . . .	—	—	—	—	—	—	—	—	—	—	—	—
English . . .	—	—	—	1	—	1	—	—	—	1	1	—
Finnish . . .	—	—	—	—	—	—	—	—	—	—	—	—
French . . .	—	—	—	—	1	1	—	—	—	—	1	1
German . . .	—	—	—	—	—	—	1	—	1	—	—	—
Greek . . .	—	—	—	—	—	—	—	—	—	—	—	—
Hebrew . . .	—	—	—	—	—	—	1	—	1	—	—	1 1
Irish . . .	1	1	2	—	—	—	—	—	—	2	1	3
Italian ¹ . . .	—	1	1	—	—	—	—	—	—	1	1	1
Lithuanian . . .	—	—	—	1	—	1	—	—	—	—	—	—
Portuguese . . .	—	—	—	—	—	—	—	—	—	—	—	—
Scandinavian ² . . .	—	—	—	—	—	—	—	—	—	—	—	1 1
Scotch . . .	—	—	—	—	—	—	—	—	—	—	—	—
Slavonic ^{3 4} . . .	—	2	2	1	—	1	—	—	—	1	1	1 1
Syrian . . .	—	1	1	—	—	—	—	—	—	—	—	—
Turkish . . .	—	—	—	—	—	—	—	—	—	—	—	—
Other specific races . . .	—	—	—	1	—	1	—	—	—	—	—	—
Mixed . . .	4	4	8	3	1	4	—	1	1	4	4	8
Race unknown . . .	—	—	—	1	—	1	—	1	1	—	—	3 6 9
Total . . .	5	9	14	8	2	10	—	1	1	5	1	6
							5	1	6	7	7	14
										5	12	17

TABLE 6. *Race of First Admissions Classified with Reference to Principal Psychoses* — Concluded

RACE	Dementia praecox			Paranoia and paranoid conditions	with psychopathic personality	with mental deficiency	Without psychoses			Primary behavior disorders		
	M.	F.	T.				M.	F.	T.	M.	F.	
African (black) . . .	1	—	1	—	—	—	—	—	—	—	—	—
Armenian . . .	1	—	1	—	—	—	—	—	—	—	—	—
Chinese . . .	1	—	1	—	—	—	—	—	—	—	—	—
Dutch and Flemish . . .	—	—	—	—	—	—	—	—	—	—	—	—
English . . .	—	5	5	—	—	—	—	1	1	1	—	1
Finnish . . .	3	1	4	—	—	—	—	—	—	3	—	3
French . . .	8	9	17	1	1	2	—	1	—	1	5	—
German . . .	1	3	4	—	—	—	—	—	—	—	—	—
Greek . . .	2	1	3	—	—	—	—	—	—	1	—	1
Hebrew . . .	1	4	5	—	—	—	—	—	—	1	—	1
Irish . . .	5	5	10	—	1	1	—	2	4	5	—	5
Italian ¹ . . .	4	2	6	—	—	—	—	1	—	1	2	—
Lithuanian . . .	1	1	2	—	—	—	—	—	—	3	1	4
Portuguese . . .	—	—	—	—	—	—	—	—	—	—	—	—
Scandinavian ² . . .	3	5	8	1	—	1	—	—	—	1	—	1
Scotch . . .	—	1	1	—	—	—	—	—	—	—	—	—
Slavonic ^{3 4} . . .	7	7	14	—	1	1	—	—	—	1	1	2
Syrian . . .	1	—	1	—	—	—	—	—	—	—	—	—
Turkish . . .	—	1	1	—	—	—	—	—	—	—	—	—
Other specific races . . .	—	—	—	—	—	—	—	—	—	—	—	—
Mixed . . .	27	21	48	2	2	4	1	1	2	2	3	5
Race unknown . . .	1	2	3	—	—	—	—	—	—	1	1	2
Total . . .	67	68	135	4	5	9	1	1	2	6	6	12
							47	8	55	1	3	4

¹Includes "North" and "South".²Norwegians, Danes and Swedes.³Includes Bohemian, Bosnian, Croatian, Dalmatian, Herzegovinian, Montenegrin, Moravian, Polish, Russian, Ruthenian, Servian, Slovak, Slovenian.⁴Undiagnosed psychoses, 1 Female.

TABLE 7. *Age of First Admissions Classified with Reference to Principal Psychoses*

PSYCHOSES	TOTAL			0-14 years		15-19 years		20-24 years		25-29 years		30-34 years		35-39 years		40-44 years		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	27	5	32	—	—	—	—	—	—	—	—	—	—	—	—	6	2	8
With other forms of syphilis	4	1	5	2	—	—	—	1	—	—	1	—	—	—	—	6	—	—
With epidemic encephalitis	1	4	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other infectious diseases	1	4	5	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1
Alcoholic psychoses	43	4	47	—	—	—	—	—	—	—	—	—	—	—	—	4	1	4
Due to drugs, etc.	2	4	6	—	—	—	—	—	—	—	—	—	—	—	—	—	2	—
Traumatic psychoses	5	1	6	—	1	—	—	—	—	—	—	—	—	—	—	2	1	—
With cerebral arteriosclerosis	53	51	104	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other disturbances of circulation	3	2	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With convulsive disorders (epilepsy)	4	1	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Senile psychoses	31	46	77	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Involitional psychoses	15	5	9	14	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Due to other metabolic diseases, etc.	8	2	10	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Due to new growth	1	1	6	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
With organic changes of nervous system	5	1	6	—	—	—	—	—	—	—	—	—	—	—	—	3	—	—
Psychoneuroses	7	7	14	—	—	—	—	—	—	—	—	—	—	—	—	2	—	—
Manic-depressive psychoses	5	12	17	—	—	—	—	—	—	—	—	—	—	—	—	1	2	3
Dementia praecox	67	68	135	—	—	—	—	6	2	8	15	6	21	10	15	25	11	22
Paranoia and paranoid conditions	4	5	9	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
With psychopathic personality	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
With mental deficiency	6	6	12	—	—	—	—	—	—	—	—	—	—	—	—	1	2	1
Undiagnosed psychoses	—	8	55	—	—	—	—	—	—	—	—	—	—	—	—	5	2	6
Without psychoses	47	8	55	—	1	—	—	6	1	7	6	3	9	—	—	3	1	4
Primary behavior disorders	1	3	4	—	—	—	—	1	1	2	—	—	—	—	—	—	8	—
Total	314	228	542	1	3	4	16	4	20	28	14	42	20	22	42	27	21	48
																32	14	46

TABLE 7. *Age of First Admissions Classified with Reference to Principal Psychoses — Concluded*

PSYCHOSIS	45-49 years		50-54 years		55-59 years		60-64 years		65-69 years		70-74 years		75-79 years		80-84 years		85 years and over	
	M. F. T.	M. F. T.	M. F. T.	M. F. T.														
With syphilitic meningo-encephalitis	5	—	5	4	1	5	4	—	4	1	2	—	—	—	—	—	—	—
With other forms of syphilis	—	—	—	2	—	—	1	—	1	—	1	—	—	—	—	—	—	—
With epidemic encephalitis	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other infectious diseases	—	7	1	8	7	—	7	6	1	1	5	—	—	2	1	—	—	—
Alcoholic psychoses	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Due to drugs, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Traumatic psychoses	—	—	—	2	2	2	4	6	1	5	1	—	17	11	9	20	6	12
With cerebral arteriosclerosis	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	—	2	4
With other disturbances of circulation	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—
With convulsive disorders (epilepsy)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Senile psychoses	—	—	—	4	—	2	1	3	—	—	3	—	—	3	8	11	4	8
Involutorial psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	2	1	—	—	—
Due to other metabolic diseases, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Due to new growth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With organic changes of nervous system	—	—	—	2	1	3	—	—	—	—	—	—	—	—	—	—	—	—
Psychoneuroses	—	—	—	—	1	1	1	2	1	1	1	—	—	—	—	—	—	—
Manic-depressive psychoses	—	—	—	—	3	9	12	2	4	6	1	1	2	—	—	—	—	—
Dementia praecox	—	—	—	2	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Paranoia and paranoid conditions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With psychopathic personality	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With mental deficiency	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undiagnosed psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without psychoses	—	—	—	3	1	4	—	4	—	—	3	—	—	1	—	—	2	—
Primary behavior disorders	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	25	22	47	26	13	39	20	13	33	25	13	38	16	20	36	15	17	32
																10	10	20
																14	34	10
																2	6	8

TABLE 8. *Degree of Education of First Admissions Classified with Reference to Principal Psychoses*

PSYCHOSES	TOTAL			ILLITERATE			READS ONLY			READS AND WRITES			COMMON SCHOOL			HIGH SCHOOL			COLLEGE			UNKNOWN		
	M.		F.	M.		F.	M.		F.	M.		F.	M.		F.	M.		F.	M.		F.	M.		F.
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	27	5	32	—	—	—	—	—	—	3	—	—	16	2	18	4	3	7	1	—	1	3	—	3
With other forms of syphilis	14	4	22	—	—	—	—	—	—	—	—	—	2	—	1	—	1	—	—	—	—	—	—	—
With epidemic encephalitis	1	1	2	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
With other infectious diseases	1	4	5	—	—	—	—	—	—	—	—	—	3	—	1	—	—	—	—	—	—	—	—	—
Alcoholic psychoses	43	4	47	5	—	—	—	—	—	—	—	—	20	—	20	8	1	9	2	—	2	—	3	1
Due to drugs, etc.	2	4	6	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Traumatic psychoses	5	1	6	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	—	—
With cerebral arteriosclerosis	53	51	104	1	2	3	—	—	—	10	—	—	25	26	51	2	7	9	1	—	—	17	13	30
With other disturbances of circulation	3	2	5	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
With convulsive disorders (epilepsy)	4	1	5	—	—	—	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	—	—
Senile psychoses	15	31	46	1	2	3	—	—	—	2	—	—	3	7	17	24	—	1	1	—	—	1	5	7
Involuntary psychoses	5	9	14	—	—	—	—	—	—	—	—	—	1	1	2	3	4	7	—	—	—	—	—	—
Due to other metabolic diseases, etc.	8	2	10	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Due to new growth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With organic changes of nervous system	5	1	6	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Psychoneuroses	7	7	14	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Manic-depressive psychoses	5	12	17	1	1	2	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Dementia praecox	67	68	135	—	—	—	—	—	—	—	—	—	5	2	7	40	26	66	18	31	49	3	3	4
Paranoia and paranoid conditions	4	5	9	—	—	—	—	—	—	—	—	—	2	1	3	1	—	1	—	—	—	2	—	—
With psychopathic personality	1	1	2	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
With mental deficiency	6	6	12	2	4	6	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	—	—
Undiagnosed psychoses	—	8	55	3	1	4	—	—	—	—	—	—	5	1	6	—	—	—	—	—	—	—	—	—
Without psychoses	47	8	54	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—
Primary behavior disorders	1	3	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	314	228	542	16	16	32	1	2	3	32	17	49	167	97	264	49	58	107	13	5	18	36	33	69

TABLE 9. *Environment of First Admissions Classified with Reference to Principal Psychoses*

Psychoses	TOTAL			0-2,499			2,500- 9,999			10,000- 24,999			25,000- 49,999			50,000- 99,999			100,000- 249,999			500,000+ Unknown					
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.			
With syphilitic meningo-encephalitis	27	5	32	—	—	—	4	—	4	4	1	5	2	1	3	—	—	—	9	3	12	7	—	1	—	1	
With other forms of syphilis	4	4	8	1	2	3	—	—	—	1	—	—	—	—	—	—	—	—	2	1	2	—	—	—	—	—	
With epidemic encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
With other infectious diseases	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Alcoholic psychoses	43	4	47	3	6	9	—	—	—	6	1	6	4	1	4	—	—	—	—	—	—	—	—	—	—		
Due to drugs, etc.	2	4	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Traumatic psychoses	5	1	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
With cerebral arteriosclerosis	53	51	104	3	3	6	—	—	—	11	9	20	7	2	9	1	1	2	—	—	—	—	—	—	—		
With other disturbances of circulation	3	2	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
With convulsive disorders (epilepsy)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Senile psychoses	15	31	46	—	—	—	2	2	2	8	9	17	2	2	4	—	—	—	—	—	—	—	—	—	—		
Involuntary psychoses	5	9	14	—	—	—	2	2	2	1	3	1	2	3	1	2	3	—	—	—	—	—	—	—	—		
Due to other metabolic diseases, etc.	8	2	10	—	—	—	1	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Due to new growth	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
With organic changes of nervous system	5	1	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Psychoneuroses	7	7	14	—	—	—	2	2	3	1	4	—	—	3	1	4	—	—	—	—	—	—	—	—	—		
Manic-depressive psychoses	5	12	17	1	1	2	—	—	—	1	2	3	—	—	3	2	3	—	—	—	—	—	—	—	—		
Dementia praecox	67	68	135	5	1	6	—	—	—	11	8	19	8	3	11	2	3	5	—	—	—	—	—	—	—		
Paranoia and paranoid conditions	4	5	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
With psychopathic personality	1	2	3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
With mental deficiency	6	6	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Undiagnosed psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Without psychoses	47	8	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Primary behavior disorders	—	1	3	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Total	314	228	542	20	12	32	64	37	101	37	21	58	5	8	13	2	4	6	162	132	294	16	10	26	8	4	12

TABLE 10. *Economic Condition of First Admissions Classified with Reference to Principal Psychoses*

PSYCHOSES	TOTAL			Dependent			Marginal			Comfortable			Unknown		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	27	5	32	11	1	12	16	3	19	—	—	—	—	1	1
With other forms of syphilis	4	—	4	—	—	—	4	—	4	—	—	—	—	—	—
With epidemic encephalitis	1	1	2	—	1	1	1	—	1	—	—	—	—	—	—
With other infectious diseases	1	4	5	—	—	—	—	4	4	—	—	—	1	—	1
Alcoholic psychoses	43	4	47	7	—	7	33	2	35	—	—	—	3	2	5
Due to drugs, etc.	2	4	6	1	—	1	1	3	4	—	—	—	1	1	1
Traumatic psychoses	5	1	6	—	1	1	5	—	5	—	—	—	—	—	—
With cerebral arteriosclerosis	53	51	104	18	7	25	26	36	62	—	—	—	9	8	17
With other disturbances of circulation	3	2	5	—	2	2	3	—	3	—	—	—	—	—	—
With convulsive disorders (epilepsy)	4	1	5	2	—	2	1	—	1	—	—	—	1	1	2
Senile psychoses	15	31	46	8	7	15	6	18	24	—	—	—	1	6	7
Involutional psychoses	5	9	14	1	—	1	4	9	13	—	—	—	—	—	—
Due to other metabolic diseases, etc.	8	2	10	—	2	2	5	—	5	—	—	—	3	—	3
Due to new growth	—	1	1	—	—	—	—	1	1	—	—	—	—	—	—
With organic changes of nervous system	5	1	6	2	—	2	2	—	2	—	—	—	1	1	2
Psychoneuroses	7	7	14	2	2	4	4	5	9	—	—	—	1	—	1
Manic-depressive psychoses	5	12	17	—	1	1	4	11	15	—	—	—	1	—	1
Dementia praecox	67	68	135	14	9	23	50	56	106	1	—	1	2	3	5
Paranoia and paranoid conditions	4	5	9	—	1	1	4	4	8	—	—	—	—	—	—
With psychopathic personality	1	1	2	1	—	1	—	1	1	—	—	—	—	—	—
With mental deficiency	6	6	12	2	2	4	2	4	6	—	—	—	2	—	2
Undiagnosed psychoses	—	1	1	—	—	—	—	1	1	—	—	—	—	—	—
Without psychoses	47	8	55	12	1	13	32	6	38	—	—	—	3	1	4
Primary behavior disorders	1	3	4	—	—	—	1	3	4	—	—	—	—	—	—
Total	314	228	542	81	37	118	204	167	371	1	—	1	28	24	52

TABLE 11. *Use of Alcohol by First Admissions Classified with Reference to Principal Psychoses*

PSYCHOSES	TOTAL			Abstinent			Temperate			Intemperate			Unknown		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	27	5	32	4	—	4	9	5	14	13	—	13	1	—	1
With other forms of syphilis	4	—	4	—	—	—	2	—	2	2	—	2	—	—	—
With epidemic encephalitis	1	1	2	1	—	1	—	1	1	—	—	—	—	—	—
With other infectious diseases	1	4	5	—	3	3	1	—	1	—	—	—	—	—	—
Alcoholic psychoses	43	4	47	—	—	—	—	—	—	43	4	47	—	—	—
Due to drugs, etc.	2	4	6	—	2	2	—	1	1	2	—	2	—	1	1
Traumatic psychoses	5	1	6	3	1	4	—	—	—	2	—	2	—	—	—
With cerebral arteriosclerosis	53	51	104	15	30	45	11	7	18	13	—	13	14	14	28
With other disturbances of circulation	3	2	5	—	2	2	2	—	2	1	—	1	—	—	—
With convulsive disorders (epilepsy)	4	1	5	2	—	2	1	—	1	—	—	—	1	1	2
Senile psychoses	15	31	46	5	18	23	6	1	7	3	1	4	1	11	12
Involutional psychoses	5	9	14	2	8	10	2	1	3	1	—	1	—	—	—
Due to other metabolic diseases, etc.	8	2	10	3	1	4	1	—	1	3	—	3	1	1	2
Due to new growth	—	1	1	—	—	—	—	—	—	—	—	—	—	1	1
With organic changes of nervous system	5	1	6	2	1	3	—	—	—	2	—	2	1	—	1
Psychoneuroses	7	7	14	3	5	8	1	2	3	3	—	3	—	—	—
Manic-depressive psychoses	5	12	17	1	7	8	3	5	8	1	—	1	—	—	—
Dementia praecox	67	68	135	32	38	70	16	18	34	15	2	17	4	10	14
Paranoia and paranoid conditions	4	5	9	—	2	2	2	—	2	2	—	2	—	3	3
With psychopathic personality	1	1	2	1	—	1	—	1	1	—	—	—	—	—	—
With mental deficiency	6	6	12	4	6	10	—	—	—	2	—	2	—	—	—
Undiagnosed psychoses	—	1	1	—	—	—	—	—	—	1	1	—	—	—	—
Without psychoses	47	8	55	11	4	15	11	2	13	24	2	26	1	—	1
Primary behavior disorders	1	3	4	—	1	1	1	1	2	—	—	—	—	1	1
Total	314	228	542	89	129	218	69	45	114	132	11	143	24	43	67

TABLE 12. *Marital Condition of First Admissions Classified with Reference to Principal Psychoses*

PSYCHOSSES	TOTAL			Single			Married			Widowed			Divorced			Separated			Unknown		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	27	5	32	11	—	11	13	3	16	2	1	3	—	1	1	—	1	—	1	—	—
With other forms of syphilis	4	—	4	—	—	—	3	—	3	—	—	—	—	—	—	—	—	—	—	—	—
With epidemic encephalitis	1	1	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other infectious diseases	1	4	5	—	2	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—
Alcoholic psychoses	43	4	47	12	—	12	23	3	26	5	—	5	—	—	3	1	—	1	—	1	—
Due to drugs, etc.	2	4	6	2	—	2	—	—	4	4	—	—	—	—	—	—	—	—	—	—	—
Traumatic psychoses	5	1	6	2	1	3	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—
With cerebral arteriosclerosis	53	51	104	9	10	19	19	22	41	19	19	38	3	—	3	2	—	2	1	—	1
With other disturbances of circulation	3	2	5	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With convulsive disorders (epilepsy)	4	1	5	2	1	3	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Semile psychoses	15	31	46	1	2	3	2	—	2	—	—	8	11	23	34	1	—	1	—	—	—
Involutional psychoses	5	9	14	—	2	—	2	—	4	4	—	8	1	3	4	—	—	—	—	—	—
Due to other metabolic diseases, etc.	8	2	10	—	3	—	3	—	5	1	—	—	1	—	—	—	—	—	—	—	—
Due to new growth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With organic changes of nervous system	5	1	6	—	3	1	4	—	1	—	—	1	—	—	1	—	—	1	—	1	—
Psychoneuroses	7	7	14	2	—	2	4	—	4	—	—	10	—	—	1	—	—	1	—	1	—
Manic-depressive psychoses	5	12	17	3	3	6	2	—	2	8	10	—	—	—	—	—	—	—	—	—	—
Dementia praecox	67	68	135	46	28	74	19	30	49	—	—	6	—	—	6	2	4	6	—	—	—
Paranoia and paranoid conditions	4	5	9	1	2	3	3	3	6	—	—	—	—	—	—	—	—	—	—	—	—
With psychopathic personality	—	1	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With mental deficiency	6	6	12	6	5	11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Undiagnosed psychoses	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without psychoses	47	8	55	15	4	19	20	3	23	4	—	4	—	—	4	8	—	—	8	—	—
Primary behavior disorders	—	1	3	4	1	2	3	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Total	314	228	542	121	64	185	123	98	221	46	56	102	19	7	26	4	3	7	1	—	1

TABLE 13. *Mental Disorders of All Admissions, All Discharges, All Deaths, 1938, All Cases in Residence and All Cases Out on September 30, 1938, by Status of Admission and Sex*

Psychoses Due to Disturbances of Growth, Metabolism, Nutrition or Endocrine Function:	
Senile Psychoses:	-
Simple deterioration	-
Presbyopsic type	-
Delinious and confused types	-
Depressed and agitated types	-
Paranoid types	-
Involuntary psychoses:	-
Melancholia	-
Paranoid types	-
Other types	-
With diseases of the endocrine glands	-
Exhaustion delirium	-
Alzheimer's disease	-
With other somatic diseases	-
<i>Psychoses Due to Unknown or Hereditary Causes, but Associated with Intracranial Neoplasms:</i>	-
With other neoplasms	-
<i>Psychoses Due to Unknown or Hereditary Causes, but Associated with Organic Changes:</i>	-
With intracranial neoplasms	-
With other somatic diseases	-
With multiple sclerosis	-
With paraparesis asthenes	-
With Huntington's chorea	-
With other brain or nervous diseases	-
<i>Psychoses Due to Unknown or Hereditary Causes, but Associated with Clearly Defined Tangible Causes, or Structural Change:</i>	-
Psychoneuroses:	-
Anxiety hysteria	-
Conversion hysteria:	-
Autonomic type	-
Amnestic type	-
Mixed hysterical psychoneurosis	-
Psychasthenia or compulsive states:	-
Obsession	-
Phobia	-
Mixed compulsive states	-
Neurasthenia	-
Hypochondriasis	-
Reactive depression	-
Anxiety state	-
Mixed psychoneuroses	-
Manic-depressive psychoses:	-
Manic type	-
Depressive type	-
Circular type	-
Mixed type	-
Peripheric type	-
Other types	-

TABLE 13. *Mental Disorders of All Admissions, All Discharges, All Deaths, 1938, All Cases in Residence and All Cases Out on September 30, 1938, by Status of Admission and Sex*—Concluded

NOTE: — Admissions and discharges do not include transfers.

TABLE 14. *Discharges of Patients Classified with Reference to Principal Psychoses and Condition on Discharge*

PSYCHOSES	TOTAL			Recovered			Improved			Unimproved		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	3	4	7	—	—	—	2	2	4	1	2	3
With other forms of syphilis	1	1	2	—	—	—	1	—	1	—	1	—
With other infectious diseases	1	1	2	2	1	1	2	—	—	—	—	—
Alcoholic psychoses	44	—	44	28	—	28	14	—	14	2	—	2
Due to drugs, etc.	5	1	6	5	1	6	—	—	—	—	—	—
Traumatic psychoses	3	—	3	—	—	—	3	—	3	—	—	—
With cerebral arteriosclerosis	26	12	38	7	4	11	16	6	22	3	2	5
With other disturbances of circulation	1	—	1	—	—	—	1	—	1	—	—	—
With convulsive disorders (epilepsy)	2	2	4	1	—	1	—	1	1	1	1	2
Senile psychoses	4	7	11	—	1	1	1	2	3	3	4	7
Involutional psychoses	4	10	14	1	3	4	3	6	9	—	1	1
Due to other metabolic diseases, etc.	3	5	8	2	2	4	—	3	3	1	—	1
Due to new growth	2	—	2	—	—	—	2	—	2	—	—	—
With organic changes of nervous system	2	—	2	1	—	1	1	—	1	—	—	—
Psychoneuroses	12	11	23	6	3	9	3	5	8	3	3	6
Manic-depressive psychoses	23	23	46	11	9	20	11	12	23	1	2	3
Dementia praecox	54	68	122	15	9	24	25	44	69	14	15	29
Paranoia and paranoid conditions	6	5	11	—	—	—	6	3	9	—	2	2
With psychopathic personality	5	9	14	1	7	8	2	1	3	2	1	3
With mental deficiency	8	3	11	3	2	5	4	1	5	1	—	1
Without psychoses	58	11	69	—	—	—	—	—	—	—	—	—
Primary behavior disorders	2	1	3	—	—	—	—	—	—	2	1	3
Total	269	174	443	82	42	124	95	86	181	34	35	69

TABLE 15. *Hospital Residence During This Admission of First Admissions Discharged During 1938*

PSYCHOSES	Number			Average Net Hospital Residence in Years		
	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	2	2	4	.45	.33	.39
With other forms of syphilis	1	—	1	.12	—	.12
With other infectious diseases	1	1	2	.12	.12	.12
Alcoholic psychoses	25	—	25	2.08	—	2.08
Due to drugs, etc.	3	1	4	.06	.12	.08
Traumatic psychoses	1	—	1	.20	—	.20
With cerebral arteriosclerosis	23	8	31	.73	.27	.61
With other disturbances of circulation	1	—	1	.20	—	.20
With convulsive disorders (epilepsy)	2	1	3	.08	.04	.06
Senile psychoses	3	7	10	.66	.76	.73
Involutional psychoses	3	7	10	1.01	.86	.91
Due to other metabolic diseases, etc.	3	4	7	.06	.55	.34
Due to new growth	1	—	1	.12	—	.12
Psychoneuroses	5	2	7	.18	.04	.14
Manic-depressive psychoses	13	6	19	.70	.21	.55
Dementia praecox	27	41	68	1.20	.43	.73
Paranoia and paranoid conditions	4	3	7	1.38	.86	1.16
With psychopathic personality	3	1	4	.23	.12	.20
With mental deficiency	3	3	6	.20	1.48	.84
Without psychoses	44	9	53	.09	.12	.09
Primary behavior disorders	1	1	2	.12	.04	.08
Total	169	97	266	.76	.45	.65

TABLE 16. *Causes of Death of Patients Classified with Reference to Principal Mental Disorders*

CAUSES OF DEATH	With Reference to Principal Mental Disorders											
	TOTAL			With syphilitic meningo-encephalitis			With other forms of syphilis			With other infectious diseases		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
<i>Infectious and Parasitic Diseases:</i>												
Tuberculosis of the respiratory system	5	8	13	—	—	—	—	—	—	—	—	—
Syphilis (non-nervous forms)	1	1	1	—	—	—	—	—	—	—	—	—
Other infectious diseases	—	—	—	—	—	—	—	—	—	—	—	—
<i>Cancer and Other Tumors:</i>												
Cancer and other malignant tumors	6	6	12	1	—	1	—	—	—	—	—	—
Tumor (non-cancerous)	—	1	1	—	—	—	—	—	—	—	—	—
<i>Rheumatic Diseases, Nutritional Diseases, Diseases of the Endocrine Glands and Other General Diseases:</i>												
Diabetes	1	2	3	—	—	—	—	—	—	—	—	—
<i>Diseases of the Blood and Blood-making Organs; Leukemias and pseudo-leukemias</i>	1	—	1	—	—	—	—	—	—	—	—	—
<i>Diseases of the Nervous System and Organs of Special Sense:</i>												
Progressive locomotor ataxia (tabes dorsalis)	1	—	1	—	—	—	—	—	—	—	—	—
Other diseases of the spinal cord	1	—	1	—	—	—	—	—	—	—	—	—
Cerebral hemorrhage	4	2	6	—	—	—	—	—	—	—	—	—
Cerebral embolism and thrombosis	—	2	2	—	—	—	—	—	—	—	—	—
General paralysis of the insane	12	1	13	12	1	13	—	—	—	—	—	—
Dementia, paresis and other psychoses	—	1	1	—	—	—	—	—	—	—	—	—
<i>Diseases of the Circulatory System:</i>												
Diseases of the myocardiun	3	2	5	—	—	—	—	—	—	—	—	—
Diseases of the coronary arteries and angina pectoris	2	—	2	—	—	—	—	—	—	—	—	—
Other diseases of the heart	—	5	3	8	—	—	—	—	—	—	—	—
Arteriosclerosis	—	18	16	34	—	—	—	—	—	—	—	—
Diseases of the veins	—	—	2	2	—	—	—	—	—	—	—	—
<i>Diseases of the Respiratory System:</i>												
Bronchitis	1	—	1	—	—	—	—	—	—	—	—	—
Bronchopneumonia (including capillary bronchitis)	19	33	52	2	1	3	—	—	—	—	—	—
Lobar pneumonia	8	5	13	—	—	—	—	—	—	—	—	—
Other diseases (tuberculosis excepted)	—	4	4	—	—	—	—	—	—	—	—	—
<i>Diseases of the Digestive System:</i>												
Ulcers of the stomach and duodenum	3	—	3	—	—	—	—	—	—	—	—	—
Hernia, intestinal obstruction	2	—	2	—	—	—	—	—	—	—	—	—
<i>Diseases of the Genito-Urinary System:</i>												
Nephritis (acute, chronic and unspecified)	5	11	16	—	—	—	—	—	—	—	—	—
Other diseases of the kidneys and ureters	1	4	5	—	—	—	—	—	—	—	—	—
Intestinal diseases (excepted)	1	—	1	—	—	—	—	—	—	—	—	—
Diseases of the bladder (tumors excepted)	—	3	1	4	—	—	—	—	—	—	—	—
<i>Violent and Accidental Deaths:</i>												
Suicide	—	2	1	—	—	—	—	—	—	—	—	—
Other external causes	—	—	—	—	—	—	—	—	—	—	—	—
<i>Ill-defined Causes of Death:</i>												
Total	105	108	213	16	2	18	2	—	1	—	1	—
				7	3	10	1	—	1	—	1	—
				34	40	74	2	3	5	—	—	—

TABLE 16. *Causes of Death of Patients Classified with Reference to Principal Mental Disorders* — Concluded

TABLE 17. *Age of Patients at Time of Death Classified with Reference to Principal Psychoses*

PSYCHOSES	TOTAL			20-24 years			25-29 years			30-34 years			35-39 years			40-44 years			45-49 years		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	16	2	18	—	—	—	—	—	—	—	—	—	1	—	1	1	—	—	4	—	4
With other forms of syphilis	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With epidemic encephalitis	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other infectious diseases	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcoholic psychoses	7	3	10	—	—	—	—	—	—	—	—	—	1	1	2	—	—	—	—	—	—
Traumatic psychoses	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With cerebral arteriosclerosis	34	40	74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other disturbances of circulation	2	3	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With convulsive disorders (epilepsy)	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Senile psychoses	10	25	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Involitional psychoses	4	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Due to other metabolic diseases, etc.	3	1	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Due to new growth	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With organic changes of nervous system	3	1	4	—	—	—	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—
Psychoneuroses	—	4	4	—	—	—	—	—	—	—	—	—	1	1	1	—	—	—	—	—	—
Manic-depressive psychoses	5	4	9	—	—	—	—	—	—	—	—	—	1	3	4	—	—	—	3	1	4
Dementia praecox	10	18	28	1	—	—	—	—	—	—	—	—	1	3	4	—	—	—	—	—	—
Paranoia and paranoid conditions	2	3	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With mental deficiency	3	2	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without psychoses	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	105	108	213	1	—	1	2	3	5	—	2	2	3	5	8	1	4	5	9	6	15

TABLE 17. *Age of Patients at Time of Death Classified with Reference to Principal Psychoses — Concluded*

PSYCHOSES	50-54 years			55-59 years			60-64 years			65-69 years			70-74 years			75-79 years			80-84 years			85 years and over		
	M.	F.	T.	M.	F.	T.																		
With syphilitic meningo-encephalitis	4	—	4	4	—	4	2	2	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other forms of syphilis	1	—	1	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With epidemic encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other infectious diseases	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcoholic psychoses	—	—	—	1	—	1	2	2	—	—	—	1	—	1	—	—	—	—	—	2	—	—	—	—
Traumatic psychoses	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With cerebral arteriosclerosis	—	—	—	—	1	—	3	3	7	4	11	3	8	11	8	9	17	6	6	12	8	6	14	2
With other disturbances of circulation	—	—	—	—	1	—	1	—	—	—	—	1	—	2	2	2	—	—	—	—	—	—	—	3
With convulsive disorders (epilepsy)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Senile psychoses	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—
Involutional psychoses	—	—	—	—	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—
Due to other metabolic diseases, etc.	—	—	—	—	1	—	1	—	—	—	—	1	—	1	—	—	—	—	—	—	—	—	—	—
Due to new growth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With organic changes of nervous system	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Psychoneuroses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manic-depressive psychoses	—	—	—	1	1	2	2	—	—	2	—	1	2	3	1	2	3	—	—	—	1	1	1	—
Dementia praecox	—	—	—	2	—	2	—	—	—	1	—	2	—	1	—	1	—	—	—	—	—	1	1	—
Paranoia and paranoid conditions	—	1	—	2	—	—	—	—	—	1	—	2	—	1	—	—	—	—	—	—	—	—	—	—
With mental deficiency	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	13	4	17	12	5	17	13	11	24	8	17	25	12	17	29	13	11	24	14	15	29	4	8	12

TABLE 18. *Total Duration of Hospital Life During All Admissions of Patients Dying in Hospital Classified According to Principal Psychoses*

PSYCHOSES	TOTAL			Less than 1 month			1-3 months			4-7 months			8-12 months			1-2 years			3-4 years			
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	
With syphilitic meningo-encephalitis	16	2	18	—	—	—	5	1	6	—	—	—	2	—	2	3	—	3	—	—	—	
With other forms of syphilis	—	—	—	1	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
With endemic encephalitis	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other infectious diseases	—	—	—	7	3	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcoholic psychoses	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Traumatic psychoses	—	—	—	34	40	74	11	13	24	6	5	11	6	4	10	3	4	7	3	10	13	1
With cerebral arteriosclerosis	—	—	—	2	3	5	—	—	—	1	1	1	2	1	—	—	—	—	1	1	—	—
With other disturbances of circulation	—	—	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With convulsive disorders (epilepsy)	—	—	—	10	25	35	2	4	6	—	—	—	3	1	2	3	1	4	1	6	7	—
Senile psychoses	—	—	—	4	—	4	—	—	—	1	—	—	1	—	—	3	—	4	—	—	—	2
Involuntary psychoses	—	—	—	3	—	1	—	—	—	1	—	—	1	—	—	—	—	—	—	—	—	—
Due to other metabolic diseases, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Due to new growth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With organic changes of nervous system	—	—	—	3	—	4	—	—	—	2	—	—	2	—	—	—	—	—	—	—	—	—
Psychoneuroses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manic-depressive psychoses	—	—	—	5	4	9	—	—	—	1	1	—	2	—	—	—	—	—	—	—	—	—
Dementia praecox	—	—	—	10	18	28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paranoia and paranoid conditions	—	2	3	—	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With mental deficiency	—	3	2	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without psychoses	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	105	108	213	17	21	38	15	15	30	9	8	17	8	10	18	12	19	31	7	6	13	

TABLE 18. *Total Duration of Hospital Life During All Admissions of Patients Dying in Hospital Classified According to Principal Psychoses — Concluded*

Psychoses	5-6 years			7-8 years			9-10 years			11-12 years			13-14 years			15-19 years			20 years and over		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	1	—	1	2	—	2	—	1	1	—	—	—	1	—	1	—	—	—	—	—	—
With other forms of syphilis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With epidemic encephalitis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other infectious diseases	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcoholic psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Traumatic psychic states	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With cerebral arteriosclerosis	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With other disturbances of circulation	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With convulsive disorders (epilepsy)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Senile psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Involutional psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Due to other metabolic diseases, etc.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Due to new growth	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With organic changes of nervous system	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Psychoneuroses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manic-depressive psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dementia praecox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Paranoia and paranoid conditions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
With mental deficiency	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without psychoses	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	10	5	15	5	2	7	1	4	5	1	2	3	5	2	7	7	4	11	8	10	18

TABLE 19. *Average Length of Hospital Residence During the Present Admission of All First Admissions in Residence on September 30, 1938*

PSYCHOSES	Number			Average Net Hospital Residence in Years		
	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	83	26	109	4.76	7.37	5.38
With other forms of syphilis	5	6	11	8.08	6.00	6.94
With epidemic encephalitis	2	3	5	6.00	7.50	6.90
With other infectious diseases	1	1	2	7.50	.44	3.97
Alcoholic psychoses	93	8	101	9.46	6.86	9.25
Due to drugs, etc.	1	1	2	3.50	.44	1.97
Traumatic psychoses	6	1	7	2.81	12.50	4.19
With cerebral arteriosclerosis	62	61	123	2.48	2.94	2.71
With other disturbances of circulation	4	—	4	1.47	—	1.47
With convulsive disorders (epilepsy)	4	3	7	9.48	12.50	10.77
Senile psychoses	24	52	76	3.18	3.82	3.62
Involutorial psychoses	11	29	40	6.58	6.97	6.86
Due to other metabolic diseases, etc.	7	5	12	3.19	5.70	4.24
With organic changes of nervous system	10	4	14	1.87	4.50	2.62
Psychoneuroses	2	6	8	3.97	7.32	6.48
Manic-depressive psychoses	9	22	31	7.61	5.72	6.27
Dementia praecox	328	332	660	12.69	12.27	12.48
Paranoia and paranoid conditions	21	43	64	7.01	10.96	9.66
With psychopathic personality	4	8	12	20.00	16.50	17.66
With mental deficiency	42	45	87	10.95	10.85	10.90
Undiagnosed psychoses	—	1	1	—	.44	.44
Without psychoses	3	1	4	.44	2.50	.95
Primary behavior disorders	—	2	2	—	.44	.44
Total	722	660	1,382	9.24	9.58	9.40

TABLE 19A. *Average Length of Hospital Residence During the Present Admission of All Readmissions in Residence on September 30, 1938*

PSYCHOSES	Number			Average Net Hospital Residence in Years		
	M.	F.	T.	M.	F.	T.
With syphilitic meningo-encephalitis	26	7	33	7.19	7.78	7.31
With other forms of syphilis	3	3	6	3.50	3.50	3.50
With epidemic encephalitis	6	3	9	5.83	10.83	7.50
With other infectious diseases	—	1	1	—	12.50	12.50
Alcoholic psychoses	48	4	52	8.10	9.25	8.19
Due to drugs, etc.	—	1	1	—	22.50	22.50
Traumatic psychoses	1	—	1	7.50	—	7.50
With cerebral arteriosclerosis	17	19	36	4.02	3.81	3.91
With other disturbances of circulation	—	1	1	—	3.50	3.50
With convulsive disorders (epilepsy)	8	2	10	7.37	3.50	6.60
Senile psychoses	5	14	19	5.90	4.07	4.55
Involutorial psychoses	5	12	17	6.30	8.00	7.50
Due to other metabolic diseases, etc.	1	2	3	7.50	4.00	5.16
With organic changes of nervous system	4	4	8	10.00	4.00	7.00
Psychoneuroses	6	4	10	7.00	6.75	6.90
Manic-depressive psychoses	30	44	74	8.36	8.77	8.60
Dementia praecox	237	349	586	11.54	10.63	11.00
Paranoia and paranoid conditions	8	21	29	12.56	9.83	10.58
With psychopathic personality	3	9	12	12.50	6.16	7.75
With mental deficiency	32	38	70	11.21	9.89	10.50
Without psychoses	2	2	4	2.50	3.50	3.00
Total	442	540	982	9.94	9.62	9.77

TABLE 20. *Family Care Statistics for Year Ended September 30, 1938*

	Males	Females	Total
Remaining in Family Care September 30, 1937	26	82	108
On Visit from Family Care September 30, 1937	5	6	11
Admitted to Family Care During the Year	40	42	82
Whole Number of Cases within the Year	66	124	190
Discharged from Family Care within the Year:	33	49	82
Discharged outright from Family Care:	3	5	8
From Family Care to Escape Status	1	2	3
From Family Care to Visit Status	7	16	23
Returned to Institution	22	26	48
Returned to Institution from Escape	1	2	3
Returned to Institution from Visit	2	4	6
Remaining in Family Care September 30, 1938	33	75	108
On Visit from Family Care September 30, 1938	5	12	17
Average Daily Number in Family Care During Year:	31	76	107
Supported by State	25	54	79
Reimbursing	—	1	1
Private	8	21	29